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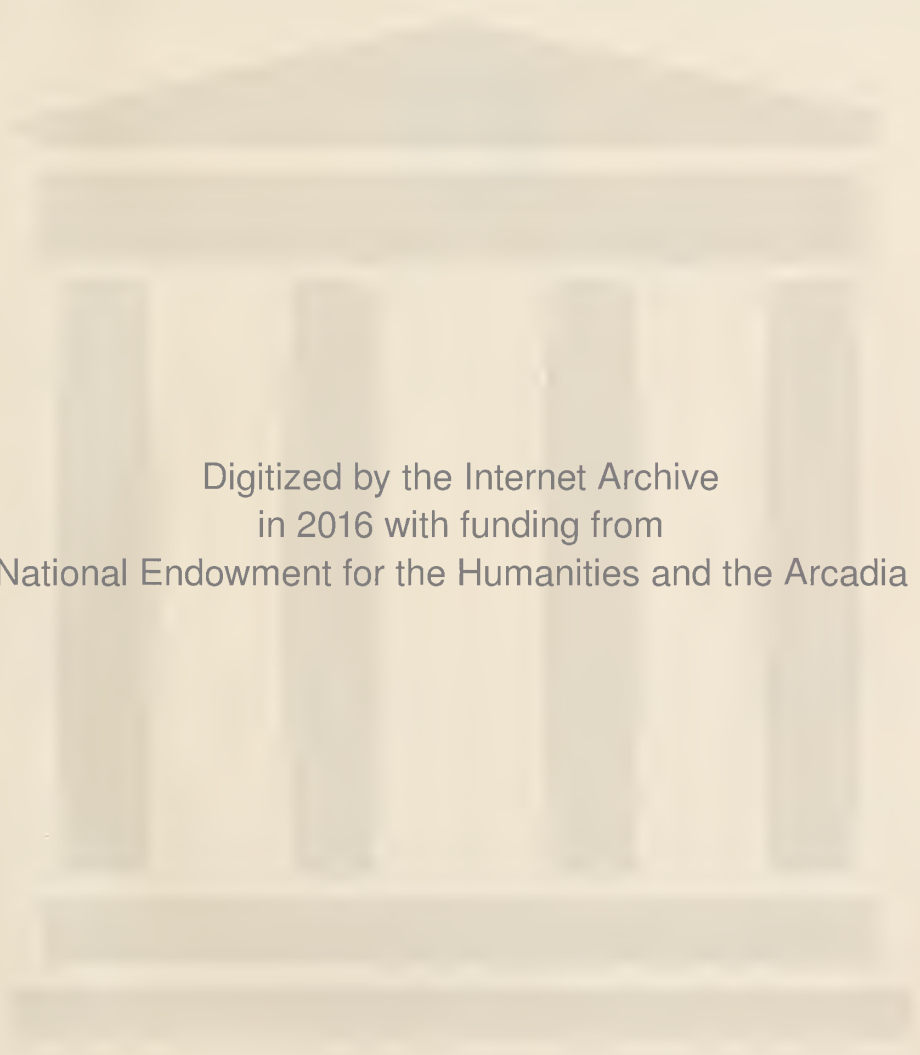
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JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA
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OF THE

Medical Association of Georgia



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VOL. V.

AUGUSTA, GA., MAY, 1915

No. 1

50 Pages on Osteomyelitis

IN THE APRIL NUMBER OF MURPHY'S CLINICS

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HYDROPHOBIA (RABIES).*

By Clarence B. Greer, M.D.,
Director Pasteur Department, Georgia State
Board of Health, Atlanta.

The history of rabies dates back to the writings of Aristotle (about 300 B. C.). He stated that dogs are subject to rabies, and by their bite communicate it to all other animals except man. Undoubtedly human rabies existed even prior to his writings, but the first written records we have are those of Celsus during the first century A. D.

Hydrophobia is a disease that does not confine itself to any one section; it has been reported from practically all part sof the world, from the arctic regions to the tropics. Season has no bearing on its prevalence. Contrary to the general idea of "dog days," we have had in Georgia for the past few years more rabies during winter and spring, the seasonal increase being purely accidental.

In 1911 Stimson stated that rabies had been reported from every state in the United States except six. The intensity of its occurrence varies in different sections. It is

especially common in Georgia, the increase having been so steady within recent years that we have perhaps at the present time more hydrophobia than any state in the Union.

Between 900 and 1,000 citizens of our state take the Pasteur treatment annually. The loss in cattle and other stock from this malady, and the expense of having treatment administered, costs the people of Georgia more than \$50,000 each year.

Symptoms. The symptomatical classification of canine hydrophobia is divided into two groups, (1) the **furious** type, in which the predominating symptoms are excitative, and (2) the **dumb** or **paralytic** type, in which, due to rapid degeneration of the nerve centers, paralytic symptoms are early manifested. The former comprises about 80 to 85 per cent of the cases, and the latter from 15 to 20 per cent.

As the dog is the chief factor in the spread of this disease, and undoubtedly the animal that perpetuates its existence, we will deal with the manifestations of the disease exhibited by him.

Furious Rabies. At first there are no signs

*Read at the meeting of State, County and Municipal Health Officers Association, Macon, Ga., April 20, 1915.

of viciousness. On the contrary the dog might seem more obedient and playful than normal, being very affectionate and licking the hands of those with whom he comes in contact. Even at this stage the saliva is virulent, and should it come in contact with an abrasion could transmit the disease. As the malady progresses the dog seems gloomy and taciturn, endeavoring to hide himself under furniture or in dark corners, but due to the restlessness and uneasy feeling will suddenly jump up in an agitated manner, walk back and forth for a few minutes, and again lie down and attempt to sleep, but very soon signs of restlessness return. While lying undisturbed he will be noticed watching imaginary objects, at which he will jump, or on hearing imaginary threatening noises will try to get to them. If they seem to come from another room he will throw himself against the wall, barking as if attacking an enemy.

In the majority of cases the involvement of the throat is an early symptom. The bark becomes quite characteristic. He holds his nose up and gives one long howl, followed by several short barks, without closing the mouth. The mad dog has no fear of water, he will drink it even when the constriction about the throat makes swallowing difficult, and will continue to lap it, being generally thirsty, even though he can swallow only solid or semi-solid food.

He will often leave home, traveling for several miles, biting everything in his path. Not infrequently he will return home and appear practically normal to one who is not a close observer. He appears exhausted, but may eat and drink, respond to caresses, and obey his master. Seldom will he attack his master without marked provocation until the condition is well advanced. Usually after a few hours excitement returns, he becomes restless, and the sight of another dog almost invariably precipitates a fight. Unless the dog is confined he will again leave home, this time usually continuing in his vicious state until killed or paralysis develops. The mad dog is mute under the infliction of pain, due to the apparent diminished sensibility. Beating and wounding produces little effect. Often the animal will mutilate himself with his teeth. The stage of excitation invariably passes into the paralytic, symptoms of the former usually lasting from three to five days, and possibly longer. Then develops weakness in the posterior extremities and

the involvement of the muscles of the jaw. Finally he appears paralyzed, the jaw drops, the spasms disappear, respiration increased, heart rapid and irregular, and death usually occurs in a few hours, though the animal might possibly live in this state for one or two days. The duration of all objective symptoms seldom extends over ten days.

Dumb Rabies. In this type the stage of excitation is very short, often unnoticed. Paralysis of the throat or the posterior extremities is usually the first symptom observed. The animal seldom shows a disposition to bite, even during the short period of irritation, for after the paralytic symptoms develop it is practically impossible for him to do so. Involvement of the muscles of the jaw causes "drop jaw"; the mouth hangs open, and the dog has the appearance of having some foreign body lodged in the throat. The saliva may not be excessive, but it is glutinous and ropy; dirt and debris form in a blackish deposit over the tongue and fauces, and not infrequently even physicians and some veterinary surgeons will diagnose the condition as "black tongue". Although the dog suffering from this type of hydrophobia seldom bites, the saliva is just as virulent as in the vicious form, and there is danger of inoculation through abrasions—even one as small as that at the base of a hangnail being sufficient to absorb enough virus to prove fatal.

The symptoms given here are those that as a rule are present, but I have found not infrequently dogs that were undoubtedly rabid which exhibited very few of the symptoms described. It is impossible for any one to tell always from the symptoms whether the dog is rabid or not.

Treatment.

Prophylaxis. The treatment of hydrophobia is essentially one of prophylaxis. The first step to be taken, which is especially essential in the severe cases, is the local treatment of the wound. In any case where the animal is supposed to be rabid, or where there is the slightest doubt, the wounds should be washed with an antiseptic solution and free bleeding produced, followed by immediate cauterization, preferably with concentrated nitric acid, using a 1 per cent ammonium carbonate solution to arrest the process when the wound is thoroughly cauterized. Other caustics, or even actual cau-

tery, may be used when nitric acid is not available. It is very important that the wounds receive treatment within five minutes, when possible, but it is advisable to cauterize thoroughly even after twelve or twenty-four hours have elapsed. Punctured wounds should be laid open to their base and cauterant applied; deep lacerations, especially those about the face, should receive careful attention. Unless this is done early, it is often impossible for the specific antirabic treatment to be effective. After cauterization treat as an open wound, allowing free drainage.

The animal inflicting the wound should be immediately isolated, awaiting further developments. Those coming in contact with him should wear rubber gloves to prevent possible inoculation from the saliva. **Under no condition should the dog be killed unless absolutely impractical to confine it.** If the animal is allowed to die it makes the examination of the brain for Negri bodies, which determines rabies, much simpler. When the animal is killed early in the disease it is sometimes impossible to find typically formed Negri bodies, and it is estimated that in about 3 per cent no lesions are found on microscopic examination in animals that are proven rabid by inoculation tests.

On account of the present prevalence of rabies in Georgia, and realizing the importance of the early use of preventive treatment, the practice of our laboratory is to report the slightest questionable changes in the brain as suspicious of rabies, and when the changes are well marked, although not quite typical, do not hesitate to report the animal as showing positive evidence of this malady. I have personally examined more than a thousand brains for evidences of hydrophobia in the past three and a half years, and have carried out repeatedly inoculation tests in rabbits to confirm my findings. I have found that practically all brains which on microscopic examination show even suspicious evidences of rabies, when inoculated into rabbits, produce this disease.

We do not claim that all animals are suffering from hydrophobia which, from our brain examinations, we report suspicious or even positive of rabies, but do claim that seldom are we mistaken in the interpretation of our findings. When typical Negri bodies are present in the brain the examination is very simple, leaving practically no doubt as to the condition; but when the animal is

killed early in the development of the disease, which is frequently the case, the changes often have not had time to become typical in their formation, and we have to endeavor to arrive at a diagnosis under conditions not so favorable. It is very important, however, that we should not report such examinations negatively if there is the slightest evidence of rabies existing, for often the parties bitten have noticed no symptoms of hydrophobia in the dog, and have decided not to take treatment unless pronounced mad by us.

Because the dog shows no symptoms that the layman or the average doctor would recognize as hydrophobia, does not mean he is not rabid; neither is the proof conclusive when we fail to find Negri bodies on brain examination.

The inoculation test is more reliable than a symptomatic diagnosis, or even the brain examination, but it is not always practicable. Brains which are decomposed have to be treated with glycerine to free them from some of the contaminating organisms before they can be used. Rabbits inoculated from these brains seldom show evidences of hydrophobia in less than three or four weeks, and should be kept under observation for several months. To carry out the test properly two or three rabbits or guinea pigs should be inoculated with each brain. This would add an additional expense to our laboratory of between \$900 and \$1,000 a year. So far as treatment is concerned I consider this test of no special value, inasmuch as the patient in case of doubt should take the antirabic virus, and the course of treatment would be terminated in all probability before the inoculation test would be completed. Instead of waiting before taking treatment to prove that the animal had hydrophobia, figure from the other angle: Can rabies be excluded? If not, and the animal inflicting the wound is dead, the only safe procedure is to take the constitutional treatment.

When to Advise Pasteur Treatment. If the wounds received are superficial in character and not of the head or face, Pasteur treatment may be postponed if the animal inflicting the wound is showing no symptoms of rabies, and can be confined and closely watched. Should he have hydrophobia he will, in all probability, exhibit evidences of it in a few days. Should no symptoms appear in two weeks we may feel certain that the virus was not present in the saliva at

the time the individual was bitten. If the animal shows the slightest symptoms of hydrophobia during the two weeks' observation, treatment should be given without delay. Should the bite be of a severe nature at any location, or mild or even superficial wound of the face, it is advisable to begin specific treatment at once. If the animal is under observation and shows no signs of rabies in ten days, treatment may be discontinued. If nothing develops in the animal in two weeks, further observation is unnecessary. If the animal inflicting the wound is killed or disappears, the only safe thing to do is to give the full course of Pasteur treatment, regardless of the symptoms or brain examination.

Pasteur Treatment. Pasteur treatment is furnished free by our laboratory to any citizen of the state. Should they prefer, it can be administered at our laboratory, or it can be mailed to their family physician and administered by him, the treatment by mail having proven quite satisfactory. When possible I would prefer to treat at the laboratory for at least the first week all cases that are severely bitten about the face.

Much time will be saved if requests for treatment are made by telephone or wire. The age of parties bitten should always be given. Information in regard to location and severity of bite, together with local treatment used and how soon applied, should be sent us immediately in order that we might prepare the treatment accordingly.

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Courvoisier's law is rarely broken—enlargement of the gall bladder with pronounced jaundice means neoplasm.

TRANSMISSION OF DISEASE.*

By K. R. Collins, M.D.,
Assistant Director of Laboratories, Georgia
State Board of Health, Atlanta.

In preventing the spread of contagion, a thorough understanding of how the various diseases are transmitted is necessary in order to avoid enforcing undue hardship on those associating with individuals suffering from any of the various infectious diseases.

The many phases of this subject to be considered are:

1. Carriers.
2. The viability of specific organisms producing disease.
3. The location of the disease and the path of invasion.
4. The resistance of the individual.

We have, first, human carriers. These may be divided into contacts, and persons suffering from an infectious disease in the active and convalescent stages, both classes may become permanent or temporary carriers. The greater percentage, however, are only temporary carriers.

In contact cases we have as a concrete example the case of Mary Mallor, who gives no history of ever having typhoid fever, but has been the source of a number of cases and deaths from this disease. She was first discovered as a carrier several years ago by Dr. Soper, of New York city. She was confined in one of the city isolating wards for three years, during which time repeated examinations were made of the excreta, and the typhoid bacillus was always present and at times in almost pure cultures. After about three years of confinement she was released with the understanding that she was not to offer herself as a cook, but could undertake such work as would not make her a menace to other people. However, she was discovered in one of the hospitals of New York city a few weeks ago, acting as cook under an assumed name. An epidemic of typhoid fever developed in this institution among the doctors and nurses and was traced to the cook.

Under temporary carriers we have those who are convalescing and those who are simply contacts. A definite example of contact is shown in the case where the mother of children suffering from meningitis, visiting

*Read at the meeting of State, County and Municipal Health Officers Association, Macon, Ga., April 20, 1915.

a neighbor in the same house, used a towel of her neighbor's, and several days later the children of this family developed meningitis. The greatest danger comes from the contacts and convalescents, as the same strict quarantine is not practical in these cases as during the active illness.

Animals may transmit disease to man by acting as hosts to the organisms producing the disease, either in an active or passive manner, as by being susceptible to the same diseases as man. As active hosts of disease we have the mosquito, rat, Tsetz flies, the hog, etc. These animals harbor the organisms during one of the cycles peculiar to it, passing it on to man. The passive carriers, such as flies and domestic animals, carry the organisms on the fur or feet by mere contact.

Animals that are susceptible to the same diseases as man, such as anthrax, tetanus, tuberculosis, glanders and diphtheria, are a menace in the same sense as from man to man.

Other means by which infections are carried would be the various materials which come in contact with the virus. This is dependent to a certain extent by the nature of the material, whether it offers a good medium for growth or not. As an example, milk, butter, water, clothing, furniture, various utensils used in sick room, soil, telephone, dust, money and transfers, etc. Milk, butter and soil offer excellent conditions for the growth of many organisms, and water also; but water that is contaminated with sewage, while offering an excellent means for saprophytic bacterial growth, it is rather poor soil for many pathogenic germs which, having a lower vitality under such conditions, will be quickly overgrown and killed off by the more adaptable bacteria.

Telephones are very common means of transmission of such diseases as affect the respiratory passages. Ordinary dust of the street, while a good medium for carrying germs, yet is generally exposed to the action of sunlight and air, so that pathogenic organisms with a low grade of viability will live only a short time.

With money we find that paper money most readily offers a means of transmission of disease. Metal coins may harbor bacteria, but the various metals have a slight inhibitory action upon the growth of germs, copper having the greatest action, silver and nickel less. Street car transfers have been examined from time to time and organisms have

been found, especially the bacillus of tuberculosis.

The readiness with which a disease may be transmitted is more or less dependent upon the viability of the organisms causing the disease.

Strictly parasitic organisms, having no life outside of the animal body, are less readily transmitted. While the saprophytic organisms or the facultative organisms, which have the ability to grow outside of the animal body, offer the greatest menace, as also do spore producing organisms.

Symbiosis is a factor in affecting the viability of organisms. For instance, the typhoid bacillus in the presence of the colon bacillus very readily dies out. Following experiments, the typhoid bacilli were inoculated into various levels of the intestinal tract of cats, one set of cats being autopsied after three hours, the second set after twenty-four hours. The same experiment was carried out in test tubes. After three hours the typhoid bacilli were found in the stomach and upper part of the small intestines. They were absent in the lower part of the colon. In the test tubes after three hours they were greatly diminished, the colon bacillus being in excess.

Autopsy of the cats after twenty-four hours showed absence of the typhoid bacilli in the stomach contents, a great decrease in the upper part of small intestines, and entirely absent in the lower colon. They were absent altogether from the broth cultures.

On the other hand, tetanus and anaerobes in general show an increase of growth in the presence of organisms requiring oxygen for their maintenance. One method of cultivating the tetanus organism is by growing it in symbiosis with other organisms, the other organisms using up the oxygen makes it possible for the tetanus or other anaerobes to develop.

The location of the disease and path of entrance indicates in a measure the steps necessary to prevent transmission.

Transmission of disease is affected by the resistance of the individual or class exposed. This resistance depends upon a natural or an acquired immunity. We know little of the causes that bring about natural immunity. In general we know that healthy tissues offer greater resistance to the invasion of disease, but there are many factors that play a part in natural immunity. Zinsser defines natural immunity as "an attribute of

species which within the same species is racial, and which within the same race is individual." We know that the white race, brown race, black race, etc., do not exhibit the same susceptibility to some diseases, and we also know that different individuals of the same race vary in their susceptibility.

We also know that some diseases common to man may be transmitted to certain animals and from certain animals back to man, while other species are immune to the organisms affecting man, though having an analogous disease. This is true of tuberculosis where the human and bovine type are interchangeable, while the analogous avian type does not affect either man or cattle.

The influence of body temperature accounting for this condition has been considered, and Gibier found that frogs, ordinarily immune from anthrax, became susceptible when kept in water at 35 degrees centigrade. Nuttall infected lizards kept at 26 degrees centigrade, with plague. Food may play a part in producing immunity, but at present we know very little concerning the causes that bring about a natural immunity.

Acquired immunity may be active or passive. In passive immunity a definite amount of a neutralizing agent is introduced into the system, but carried with it no power to stimulate the production of protective powers. Such immunity only lasts until elimination takes place. Elimination of a heterologous substance occurs more quickly than a homologous substance—that is, horse serum inoculated into man is eliminated more quickly than human serum inoculated into man.

Active immunity to a disease is acquired either by an attack of the disease or by inoculation of the attenuated virus producing the disease. Vaccines are of this nature. In bringing about immunity by the use of vaccines it must be remembered that various organisms of same type will show individual difference in the production of antibodies, and for this reason multiple vaccines are used. However, there is not always an equal response on the part of the system to the various strains inoculated. One strain may produce antibodies considerably in excess of the other strains and the immunization would not be as perfect as expected to all strains.

The susceptibility of the individual possessing immunity to certain diseases may be

increased if the virus of a different disease is superimposed. This is very clearly worked out in the case of glanders, because here we have to deal with horses and we can use them experimentally. In the early stages of glanders we find the development of tubercles in the lungs very closely resembling those of tuberculosis. During this stage the glanders bacillus is present and active. The animals show antibodies and will respond to the Mallein and other immunity tests. In the later stage of the disease the tubercles break down and are invaded by pyogenic organisms. The glanders bacillus will be destroyed, and the cells will be stimulated to react to the new invasion. The glanders bacillus and all its antibodies will disappear under these conditions. This may explain the question of tuberculosis developing after typhoid vaccines have been administered, as claimed by some.

A latent tubercular condition existing in the system produces sufficient antibodies to prevent an active process, but upon inoculation with some other vaccine, the resistance to tuberculosis is destroyed, thus permitting the lesion to become active.

One other point in the question of resistance. This has to do with the administration of excess of antitoxin. During the period of incubation of diphtheria, only a slight amount of immunity is produced. Cases treated early by excessive dosing of antitoxin might have the immunizing process checked, so an acquired immunity, which should naturally follow such an attack, would be either very low or absent. Theobald Smith claims that he gets a slight immunity by inoculating animals with toxine and antitoxin mixtures, using 60 per cent of what is known as the L plus dose, with one unit of antitoxin. Now, the L plus dose contains 100 fatal doses. Even though only 60 per cent is used, it is perfectly possible that all of the toxine is not combined, or that all of the toxine molecules are not fully saturated, in which case the animal would not die, and the amount of free or modified toxine would be sufficient to produce immunity. So theoretically if we neutralize all toxine present in the body, we must interfere with immunization. In my opinion the possibility of doing this should make us hesitate to give excessively large initial doses, but to graduate the dose so as to bring about best curative results with a more or less permanent immunity to the disease.

FACTS—HOW WE CAN USE THEM.*

By A. G. Fort, M.D.,

Director of Field Sanitation, Georgia State
Board of Health.

As apparent occasion demanded, certain bills were presented to the legislature of the State of Georgia and became laws. The fear of epidemic of cholera, yellow fever, the plague, etc., led our law makers to give us quarantine laws, protecting us in a slight degree from introduction of these diseases from other countries and other states; but nothing definite, no purpose toward an end, was undertaken in Georgia until the bill creating the Georgia State Board of Health, in 1903, became a law. From that date to this there has been a gradual evolution which was made possible by the work of the State Board and the municipal boards of the state. Each step leads more and more toward a centralization of health administration. Somebody should be held responsible for health matters and now we have it centralized in the Municipal Boards of Health, County Boards of Health, the State Board of Health, and the Public Health Service of the United States (relative to interstate affairs). Demands from within and from without have made it possible for this advance in health legislation. The gradual teaching of the peo-

ple, from these different sources of their ability through proper channels, to preserve life and health, has made it possible for us to secure the nucleus of health laws on which we can build.

During the last four years we have quietly but constantly been at work in securing facts and figures in the rural districts of our state on which to base an appeal for a step still further in the advancement of health problems primarily for the rural districts. The cities and larger municipalities have already taken steps to safeguard and conserve health within their prescribed areas. A few counties have gone so far as to install health officers, but these counties are those with a very large urban population. These counties have been able to estimate and compare their general health conditions with those in other parts of the United States. They have been able to accomplish something and to have an idea of what they wanted to do and how they will do it. With something definite in view they will at no late date be able to show progress. So we hope that by the presentation of the facts, herein cited, to the strictly rural counties to enable them to see that health conditions are not as they should be and that they can by proper steps make these counties as delightful and healthful places in which to live as are the more thickly populated sections of our state. The facts to be presented are:

Results of Investigations—Prevalence Hookworm

COUNTIES	RURAL SCHOOL CHILDREN EXAMINED		PEOPLE ALL AGES EXAMINED			SANITARY SURVEY ESTIMATED EFFICIENCY TOILETS RURAL						
	No.	Pos.	No.	Pos.	Treat.	100%	75%	50%	25%	10%	0%	Total
Appling	435	331	860	516	516	.....	.....	.....	.....	139	107	346
Baker	483	465	931	710	710	.....	.....	.....	.....	136	135	271
Baldwin	371	283	1047	353	376	.....	.....	.....	.....	156	72	228
Banks	727	589	1628	958	958	.....	.....	.....	.....	84	238	322
Ben Hill	488	385	804	524	793	.....	.....	.....	.....	182	17	209
Berrien	200	183	8332	672	491	.....	.....	.....	2	600	118	720
Bleckley	602	581	1937	1184	1183	.....	.....	.....	.....	116	138	254
Brooks	316	261	530	356	515	.....	.....	.....	.....	158	33	131
Bryan	447	383	1012	592	592	.....	.....	.....	.....	71	49	120
Bulloch	376	344	841	604	604	.....	.....	.....	.....	249	60	309
Burke	369	357	1163	757	757	.....	.....	.....	.....	96	138	234
Calhoun	535	307	1361	575	575	.....	.....	.....	.....	112	65	177
Camden	249	215	609	403	403	.....	.....	.....	.....	.....	.....	.....
Campbell	310	43	625	58	70	.....	.....	.....	.....	93	140	233
Charlton .....	.....	.....	135	115	115	.....	.....	.....	.....	.....	.....	.....
Chattahoochee	288	202	420	230	249	.....	.....	.....	1	413	51	465
Clarke .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	234	127	361
Clinch .....	.....	.....	282	223	223	.....	.....	.....	.....	190	50	240
Cobb	251	48	798	102	104	1	.....	.....	.....	123	95	219
Coffee	946	784	1174	1154	1154	.....	.....	.....	.....	355	21	376
Colquitt	501	301	659	381	700	.....	.....	.....	.....	312	58	370

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

Results in Investigations—Prevalence Hookworm—*continued*

COUNTIES	RURAL SCHOOL CHILDREN EXAMINED		PEOPLE ALL AGES EXAMINED			SANITARY SURVEY ESTIMATED EFFICIENCY TOILETS RURAL						
	No.	Pos.	No.	Pos.	Treat.	100%	75%	50%	25%	10%	0%	Total
Columbia	225	62	609	106	108					88	68	156
Coweta	374	61	651	73	73					145	27	172
Crawford	676	253	1471	425	420					118	245	363
Crisp			409	215	215					182	27	209
Decatur	1137	1129	2639	2043	2043					450	392	842
Dodge	1098	1060	3290	2418	2418					192	157	349
Dooly			304	177	180					167	7	174
Dougherty	421	102	890	171	171					164	255	419
Early	223	203	808	664	627					246	197	443
Echols	320	285	514	327	327					176	229	405
Effingham	645	614	1581	679	678					193	47	240
Elbert	502	124	1299	199	199					257	229	486
Emmanuel	1820	1752	3880	3001	3001					200	112	312
Fayette	202	51										
Franklin	814	554	1588	855	855					170	168	338
Glascocok	411	409	848	755	739					86	69	155
Glynn			490	187	249							
Gordon	204	34										
Grady	1433	1424	3078	2376	2376	3				158	102	263
Gwinnett	1194	174	1733	279	234		3		2	159	100	262
Hall	573	407	1156	641	641					118	178	296
Hancock	373	151	586	157	157					195	88	283
Harris	528	189	683	198	196				46	407	16	469
Hart	295	54	660	100	100					320	163	483
Heard	990	193	1341	224	184					146	118	264
Houston	147	83	611	202	202		2		2	162	74	240
Irwin	303	292	893	645	649					199	13	212
Jackson	437	90	912	136	136					142	66	208
Jeff Davis	362	315	615	431	431					332	253	585
Jefferson	288	262	1109	687	687					201	98	299
Jenkins	422	400	859	601	601					181	55	236
Jones	202	106	1039	429	426					58	104	162
Liberty	266	239	306	244	244					188	22	210
Lowndes	219	156	481	351	507							
Lumpkin	204	121										
McDuffie	286	191	416	251	222					72	48	120
McIntosh			297	169						135		135
Macon	267	172	595	239	239					202	138	340
Madison	791	205	1372	284	284					312	214	526
Miller	302	298	580	429	429	4				119	58	181
Milton	500	118	594	131	96					181	139	320
Mitchell	717	715	1940	1534	1534	1				272	171	443
Montgomery	548	508	2490	1392	1405					99	105	204
Muscogokee	384	192	989	307	307				5	211	106	322
Newton	200	45										
Oconee	526	116	909	188	170					305	171	478
Paulding	215	62										
Pierce	849	742	1600	1114	1114					245	42	287
Pike	224	56										
Pulaski	469	323	829	395	394					121	22	143
Quitman	510	320	938	424	424					67	77	245
Rabun	445	254	596	267	305					84	61	145
Richmond	259	180	924	405	401					220	74	294
Screven	796	771	2069	1508	1568					513	134	647
Stephens	209	156	348	231	231					242	115	357
Stewart	110	65	328	136	134					77	42	119
Sumter	262	149	533	223	223					304	90	394
Talbot	452	231	629	290	319					358	46	404
Taliaferro	183	20	341	27	26					75	156	231
Tatnall	798	646	3553	2004	2000					130	126	256
Taylor	204	153										
Telfair	1127	1103	3629	2412	2410					171	167	338
Terrell	1107	319	1781	413	388					155	50	205
Thomas	259	152	679	326	686				2	331	192	525
Tift	349	295	531	471	587					246	53	299
Toombs	541	533	3022	1909	1908					84	84	168
Towns	365	277	749	399	399					10	185	195
Troup	284	44	663	65	65					202	174	376
Turner			375	282	288					327	98	425

Results in Investigations—Prevalence Hookworm—continued

COUNTIES	RURAL SCHOOL CHILDREN EXAMINED		PEOPLE ALL AGES EXAMINED			SANITARY SURVEY ESTIMATED EFFICIENCY TOILETS. RURAL						
	No.	Pos.	No.	Pos.	Treat.	100%	75%	50%	25%	10%	0%	Total
Twiggs	301	296	1300	831	833					19	91	110
Walker	228	58										
Walton									8	216	126	350
Ware	352	296	532	402	429					400	51	451
Warren			468	247	247					122	57	179
Washington	632	506	1251	832	832					202	526	728
Wayne	692	555	1227	788	810					405	5	410
Webster	268	195	512	316	316				1	80	50	131
Wheeler	646	630	1849	1259	1263					91	104	195
Wilcox	213	143	604	255	299					83	23	106
Wilkes	270	128	734	201	201					183	124	307
Wilkinson	439	404	890	653	653					106	41	147
Worth	432	376	1084	754	762					169	31	199
Total	44140	30285	100056	55786	56755	9	7		69	17688	9843	27616

These figures definitely explain why the soil-borne diseases exist and to what extent. Further, we have found in the examination of school children the following:

Results of Examination of School Children in Stewart, Webster and Tift Counties, Made by Dr. T. F. Abercrombie, January 1, 1911, to October 1, 1911.

	Stewart.			Webster.			Tift.	Grand
	W.	C.	Total.	W.	C.	Total.	Total.	Total.
Number Examined	400	954	1354	280	315	595	983	2932
Hookworm Suspects	185	303	488	170	196	366	539	1393
Defective Vision	72	25	97	39	1	40	181	318
Enlarged Glands	57	22	70	40	52	92	373	544
Defective Teeth	160	158	318	94	68	162	342	822
Enlarged Tonsils	112	94	206	61	68	129	233	568
Adenoids	121	54	175	38	18	56	241	472
Skin Diseases	3	9	12	1	2	3	2	17
Heart Disease	12	4	16	2	0	2	63	81
Pulmonary Diseases	4	20	24	2	7	9	27	60
Bone Defects	2	3	5	0	2	2	3	10
Defective Ears	5	0	5	0	0	0	105	110
Total	733	692	1425	467	414	981	2109	4395

If this condition of affairs exists in the ninety-eight counties where infection surveys have been made, and in the ninety-one counties where sanitary surveys have been made, and in the three counties where medical inspections of school children have been made, it must be similar in the balance of the counties; so, is it not time that we were putting forth every possible effort to educate our county officials to the necessity of installing full-time county health officers in every county or district within the state? The State Board of Health would, if it had the funds wherewith to do so, send men into various sections to insist upon the installation of these officers whose duties are definitely set forth under the law which makes their appointment possible. The Board would also place in operation the Vital Sta-

tistics Law if funds were available for same; so with the facts we now have available and with those which will be made available, through the operation of this law, we could so thoroughly impress upon the public the necessity of properly trained full time health men, as a business investment, that some would take steps necessary to obtain them. With this done and with the establishment by a few counties of this work, our state could be made as healthful as any within the Union. I can see but one danger and that is this: Our law provides a salary of not less than \$1,200. Many of the counties will appropriate the minimum. Can we with this sum secure the services of men who will "deliver the goods" in such a way as to make the work attractive and really worth the money invested? Here we will have to

appeal to our State Board of Health to allow no man's name to remain on the list of eligibles who cannot and will not "make absolutely good" in one of these positions. It would be very unfortunate indeed to, after having put forth so much effort to build up our law to what it is now, have a few incompetent or indifferent men bring it into disrepute.

Thus we see that through education and through the loyal support of Colonel Ellis and others we have secured basic law municipal boards of health, county boards of health, and the State Board of Health. From the facts presented we see the necessity of further steps, the possibility of gaining other valuable information and of securing men to assist in gaining the co-operation of grand juries, and must realize the necessity of obtaining funds with which to work; so let us recommend to each county board of health that they through every agency utilize these statements for two specific purposes: to impress on counties the necessity of making the provisions of the Public Health Bill operative and to insist that their representatives aid by giving support through appropriations to the State Board of Health.

SCHOLARSHIPS IN MEDICAL EDUCATION, AND THE "POOR BOY."

As various reports on medical education have shown, it is the proprietary or commercially inclined medical schools which have been most avowedly solicitous for the "poor boy" but which do the least for him in return for what he does pay. The cry of "a medical education for the poor boy," therefore, has often meant a poor medical education (dear at any price) at the same or even greater cost than a good one, and this for the boy who is perhaps "poor" in scholarship rather than in purse. There is certainly no reason for encouraging the dullard or the ignoramus, even if he is also indigent, to attempt to practice medicine at the expense of the "poor" public. Yet it would be unfortunate if the career of medicine were indeed to be closed to ambitious and able young men because of lack of means. This danger has been emphasized in recent years by the increased expense connected with the teaching of medicine, which in turn, in some of the medical schools, has led to increased charges for tuition. On the other hand, some of the best medical teaching institutions, par-

ticularly the medical departments of state universities, have very low tuition fees, or, in some instances, make no charge except for laboratory fees. Again, in some of our best medical schools having high tuition fees, opportunities exist for determined students to make at least a part of their expenses; but the attempt to earn all expenses, while doing justice to the exacting work of a medical course, means a strain which few constitutions are fitted to endure. The solution of the problem lies in free scholarships to be awarded to good students who cannot afford to pay their own way. A review of the medical college announcements shows that there is now a total provision for about 170 scholarships, most of which are granted annually and are reserved for students of ability who are in need of financial aid. Included in the total are several which have been granted in recent years. In 1912, three scholarships were established at the Leland Stanford Junior University, School of Medicine, from "The Alumni Jordan Medical Scholarship Fund." In 1913, the Philadelphia Alumni Society of the University of Pennsylvania Medical Department founded a scholarship in honor of Dr. Roland G. Curtin. In 1914, through the generosity of an anonymous donor, ten free scholarships in the University of Cincinnati College of Medicine were announced. Last month a gift from Mr. James A. Patten of \$27,000 was made to the Northwestern University Medical School to provide an endowment for eight free scholarships, and of these, two are to be awarded each year to the students with the highest standing in the College of Liberal Arts who enter the medical school and need such aid. The Journal of the American Medical Association expresses the hope that these benefactions will serve as suggestions to men who are considering the direction which their philanthropies shall take, and that eventually all our best medical schools may have at their disposal a number of free scholarships sufficient to insure that no promising student whose talents lie in the direction of medicine need to be prevented by poverty from entering on that work.

An advertisement in The Journal of the Medical Association of Georgia will bring results. Rates sent on request.

Does your card appear in the Professional Directory?

THE JOURNAL

OF THE

Medical Association of Georgia

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SINGLE COPIES of this calendar year 15 cents; of the previous calendar year, also 15 cents; two years old, 20 cents; three years old, 25 cents; in other words, 5 cents additional is charged for each year preceding the last calendar year.

REMITTANCES should be made by check, draft, registered letter, money or express order. Currency should not be sent unless the letter is registered. Stamps in amounts under one dollar are acceptable.

CHANGE OF ADDRESS notice should give both the old and the new address, and state whether the change is permanent or temporary. The change notice must reach us ten days in advance of the date of the issue which is to be forwarded to the new address.

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ADVERTISEMENTS

Advertising forms go to press eight day in advance of the date of issue. In sending in copy time must be allowed for setting up advertisements and for sending proofs. No proprietary medicines can be advertised until approved by the council. Advertising rates will be sent on request.

CONTRIBUTIONS

EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this journal.

CONTRIBUTIONS TYPEWRITTEN: Authors should have their contributions typewritten—double-space and with ample margin—before submitting them. The expense is small to the author—the satisfaction is great to the editor and printer. We cannot promise to return unused manuscript, but try to do so in every instance. Manuscript should not be rolled or folded.

ANONYMOUS CONTRIBUTIONS, whether for publication, for information, or in the way of criticism, are consigned to the wastebasket unread.

NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

MEDICAL ASSOCIATION OF GEORGIA.

Minutes of the House of Delegates of the
Sixty-sixth Annual Session, Held at
Macon, April 21, 1915.

FIRST MEETING.

The House of Delegates met at 9:30 a. m. and was called to order by the President, Dr. W. B. Hardman, Commerce.

The Secretary called the roll, and the President announced a quorum present.

Under the head of Reports of Committees, Dr. J. R. B. Branch, Chairman of the Committee on Scientific Work, called attention to the program and said that at the meeting of the Council in November, the Committee was authorized to require not only the titles of all the papers to be read before the Association, but copies of the same to be placed in the hands of the Committee thirty days before the meeting. In this way the Com-

mittee would be enabled to live up to the agreement or the requirement.

There were fifty-eight papers listed, and the Committee submitted the official program as it is printed.

It was moved by Dr. Pileher that the report be adopted.

Seconded and carried.

The President thereupon declared the program as printed the program for the meeting of the Medical Association of Georgia.

Dr. O. H. Weaver, Chairman of the Entertainment Committee, reported that the Dempsey Hotel had been designated as headquarters for the Association.

Thursday evening a banquet would be given at 8 o'clock in Hotel Dempsey, to which all members present were cordially invited. This was the only social feature the Committee had provided.

It was moved by Dr. Pileher that the report be adopted.

Seconded and carried.

The Secretary read the minutes of the Council meeting held Tuesday evening, April 20, together with his annual report as Secretary-Treasurer.

Secretary-Treasurer's Report.

In submitting this, my fifth annual report, I wish to congratulate the Association on the healthy condition of its growth, and the interest generally manifested by its members.

While owing to the financial depression due to the war, it was not expected that the membership would be quite so large as it was last year, yet it is greater than it has ever been at the time of our annual meeting, and I feel that even with the stringency of the times, we will be able to keep up to our normal level. This is very essential as many of the contracts for our Journal are dependent upon a circulation of fifteen hundred or over, and I feel the Journal is now our greatest asset.

As mentioned in previous reports the expense incident to the founding of a Medical Journal is much greater than one would imagine and the difficulty in securing acceptable advertisements is likewise greater.

In consequence of these facts we have often regretfully admitted that our Journal was not a great source of pride, but at the same time, thanks to the admonitions of the Council, it was always "clean."

Our 1913 report showed an income from

the Journal of \$677.18, with accounts due of \$831.75 and contracts amounting to \$1,234.55.

Our 1914 report showed an income from the Journal of \$599.09, accounts due \$922.89, and contracts amounting to \$1,606.50.

Our report this year shows an income of \$1,223.03, accounts due \$1,024.48, and contracts amounting to \$2,769.55. In three years we have more than doubled our income.

This will much more than pay all costs of publication and distribution, leaving the membership dues to be used for the advancement of the Association's interests.

I have devoted considerable effort and money securing advertisements for your Journal and I am glad to state that few of our advertisers cancel their contracts and any inducement that may be offered to secure an ad for one year will secure it permanently. I have personally purchased \$325.00 worth of books, instruments, etc., in order to get this business. This with an expenditure of \$600.00 for a stenographer and \$240.00 for an editorial room gives your Secretary-Treasurer-Editor the magnificent salary of \$635.00 per year, but withal I have enjoyed the work. I feel that we have been successful and that is our greatest asset. No one so well as I knows the joy I have had in that success.

The loyalty of my associates, without whom success would have been impossible, has given me the greatest joy. I like to feel that in winning these men as my friends, who have gone through the trying times with me, I have secured an asset above and beyond all others.

Therefore, gentlemen, at the end of my first term of office, I feel that I have been repaid.

INCOME.

Balance from last year.....	\$1,021.13
Received from Members.....	4,682.81
Received from Journal.....	1,223.03
Total	\$6,926.97

EXPENDITURES.

(As per Vouchers attached)

No.		
263	Phoenix Ptg. Co., on Account	\$ 500.00
264	W. C. Lyle, on last year's salary	265.00
	(Association note for \$1,000.00 for balance)	
265	J. A. Jarrell, Returned State Dues	3.00

266	J. R. B. Branch, Councillor's Expenses, 1913.....	16.00
267	Phoenix Ptg. Co., on Account	250.00
268	E. T. Coleman, Councillor's Expenses	37.00
269	L. J. Henry, Typewriter Supplies and Repairs.....	3.35
270	Phoenix Ptg. Co., Postal Cards	2.00
271	Phoenix Ptg. Co., Postage on May Issue	7.93
272	Phoenix Ptg. Co., on Account	64.25
273	Phoenix Ptg. Co., on Account	100.00
274	W. C. Lyle, on Salary.....	50.00
275	Western Union Telegraph Co., Messages to Florida Assn.....	3.63
276	Postage and Express, Florida Association	5.00
277	G. W. Tidwell, Jr., Rubber Stamp .....	.60
278	Richards Stationery Co., Supplies	7.90
279	W. C. Lyle, Salary.....	100.00
280	W. C. Lyle, Express to A. M. A. Journals	1.00
281	W. C. Lyle, Salary.....	100.00
282	Phoenix Ptg. Co., Postage on June Issue	6.07
283	Phoenix Ptg. Co., on Account	50.00
284	W. E. Cunningham, Commissions on Ads.....	15.00
285	Phoenix Ptg. Co., on Account	100.00
286	Phoenix Ptg. Co., Postage on July Issue	7.22
287	Phoenix Ptg. Co., on Account	103.33
288	Phoenix Ptg. Co., Postage on August Issue	5.98
289	Phoenix Ptg. Co., on Account	102.67
290	J. P. Stevens Co., Pres. Stationery	15.50
291	William Whitford, Reporting Annual Meeting	162.00
292	Phoenix Ptg. Co., Postage on September Issue	5.74
293	Phoenix Ptg. Co., on Account	52.00
294	Phoenix Ptg. Co., Postage on October Issue	5.44
295	W. C. Lyle, on Salary.....	25.00
296	Phoenix Ptg. Co., on Account	51.33
297	Phoenix Ptg. Co., Postage on November Issue	5.74
298	W. C. Lyle, Stamps, Annual Reports County Secretaries	2.00
299	W. R. Dawson & Co., Secretary's Bond	5.00
300	Phoenix Ptg. Co., on Account	51.35

301	Phoenix Ptg. Co., Postage on December Issue	5.44	336	Phoenix Ptg. Co., in full to April	458.25
302	W. C. Lyle, on Salary.....	50.00	337	W. C. Lyle, Salary in Full.....	1,150.00
303	John W. Clark, P.M., Advance on Envelopes	1.24		Total	\$6,108.05
304	Phoenix Ptg. Co., on Account	50.00		April 15, 1915—Balance on hand.....	\$ 818.92
305	John W. Clark, P.M., Stamped Envelopes	20.00		Bills Payable	None
306	W. C. Lyle, on Salary.....	25.00		(Association Note, due May 1, \$1,000.00)	
307	Phoenix Ptg. Co., on Account	102.35		Bills Receivable, Journal Past Due	
308	Wrigley Eng. Co., Half Tone Cut for Ad.....	3.00		Accounts	\$1,024.48
309	Phoenix Ptg. Co., Postage on January Issue	5.48		Contracts for Ensuing Year, less	
310	J. W. Clark, P.M., Advance on Envelopes	1.36		Commission	2,769.55
311	W. C. Lyle, Personal Loan (check attached)	33.00		Total	\$3,794.03
312	J. P. Stevens Eng. Co., Pres. Stationery	3.25		Cash in Bank	818.92
313	Phoenix Ptg. Co., on Account	50.00		Assets	\$4,612.95
314	Phoenix Ptg. Co., Notices for Annual Papers	15.00			
315	Southern Press Clipping Bureau, Service, 1914.....	24.00			
316	W. C. Lyle, on Salary.....	100.00			
317	Merchants Bank, Returned Check	3.00			
318	Phoenix Ptg. Co., on Account	76.67			
319	J. W. Clark, P.M., Stamped Envelopes	20.00			
320	Phoenix Ptg. Co., Postage on February Issue	6.17			
321	W. C. Lyle, Salary \$100.00, Stamps \$3.00	103.00			
322	Phoenix Ptg. Co., on Account	250.00			
323	W. C. Lyle, on Salary.....	100.00			
324	Merchants Bank, Returned Check	3.00			
325	Phoenix Ptg. Co., on Account	200.00			
326	Phoenix Ptg. Co., on Account	176.15			
327	Phoenix Ptg. Co., Postage on March Issue	6.24			
328	J. L. Hiers, Councillor's Expense	50.80			
329	H. H. Martin, Association Expense, Savannah Meeting....	25.00			
330	M. J. Lynch, Commission on Ad	3.00			
331	Phoenix Ptg. Co., on Account	150.00			
332	M. J. Lynch, Commission on Ad	3.00			
333	Phoenix Ptg. Co., on Account	500.00			
334	Phoenix Ptg. Co., Stamped Envelopes for Programs.....	16.62			
335	Merchants Bank, Returned Check	30.00			

W. C. LYLE, M.D.,
Secretary-Treasurer.

To the Council,
Medical Association of Georgia.

Gentlemen:

Your Committee appointed by the Council to audit the books of the Secretary-Treasurer for the year 1914-15, beg leave to submit the following:

We have checked up the items as written in his report and find them accurate in every detail.

We congratulate the Medical Association of Georgia for having such an able and efficient man in this important office. We note with pleasure the marked improvement and firm financial footing upon which he has placed our Journal. We believe this due to the unusual ability and marked industry of the present incumbent.

W. L. CHAMPION,
J. R. B. BRANCH,
E. T. COLEMAN.

It was moved that the minutes of the Council be adopted as read.

Seconded and carried.

Dr. A. B. Mason presented the following resolution relative to ophthalmia neonatorum:

Whereas, Ophthalmia Neonatorum is responsible for between one-fourth and one-third of all cases of blindness; and

Whereas, Ophthalmia Neonatorum is preventable, and

Whereas, The Committee on Prevention of Blindness of the American Medical Association has drafted a model bill for the prevention of blindness from Ophthalmia Neonatorum; therefore be it

Resolved, That the House of Delegates of the Medical Association of Georgia recommends that the Committee on Public Policy and Legislation be instructed to secure the passage of this bill or a proper substitute therefor.

Proposed Bill for the Prevention of Infant Blindness.

An Act to be entitled "An Act for the Prevention of Blindness from Ophthalmia Neonatorum;" Designating Certain Powers and Duties and Otherwise Providing for the Enforcement of this Act.

Section 1. OPTHALMIA NEONATORUM DEFINED. Be it enacted by the General Assembly of Georgia, and it is hereby enacted by authority of the same, that any diseased condition of the eye, or eyes, of any infant shall, independent of the nature of the infection, be known as ophthalmia neonatorum, in which there is any inflammation, swelling or redness in either one or both eyes of any such infant, either apart from or together with any unnatural discharge from the eye, or eyes, of any such infant at any time within two weeks after the birth of any such infant.

Sec. 2. DUTIES OF PHYSICIANS, MIDWIVES, REPORTING, ETC. Be it further enacted, that it shall be the duty of any physician, surgeon, obstetrician, midwife, nurse, maternity home or hospital of any nature, parent, relative, and any person or person assisting in any way whatsoever any infant, or the mother of any infant, at any time within two weeks after childbirth, observing or having a reasonable opportunity to observe the condition hereinabove defined, and within six hours thereafter, to report such fact, as the State Board of Health shall direct, to the local health officer of the city, town, village, or whatever other political division there may be, within which the mother of any such infant may reside: Provided that this section shall be construed to impose upon parents, relatives, guardians and the like the further duty to report pursuant to this law, should the physician and the like fail to report as hereinabove and hereinafter enacted: Provided, further, that this section shall not be construed to impose upon friends, neighbors, visitors, servants and the like of any such infant, or the mother of any such infant, the duty to report pursuant to this law, should the physician

and the like fail to report as hereinabove and hereinafter enacted.

Sec. 3. DUTIES OF MATERNITY HOMES, RECORDING; PHYSICIANS, PRESCRIBING, ETC. Be it further enacted, that it shall be the duty of all maternity homes and any and all hospitals, etc., to maintain such records of cases of ophthalmia neonatorum as the State Board of Health shall direct. It shall be the duty of any and all physicians, midwives, and the like, in addition to reporting as hereinbefore enacted, to advise, prescribe and employ, in the treatment of all cases of ophthalmia neonatorum, such prophylactic as the State Board of Health shall direct; and to inform the parents or guardians of a child as to the dangers and dire consequences of this disease by furnishing and distributing to them copies of this law together with such advice and information as the State Board of Health shall direct: Provided that this shall not be construed as a performance of the duties devolving upon the Board of Health as hereinafter set forth in Section 5, Parts 2 (c3. and 4.

Sec. 4. DUTIES OF THE LOCAL HEALTH OFFICER. Be it further enacted, that it shall be the duty of the local health officer:

1. To investigate each case as filed with him in pursuance with this law, and any such case as may come to his attention.

2. To report all cases of ophthalmia neonatorum and the results of such investigations as he shall make, as the State Board of Health shall direct.

3. To conform to such other rules and regulations as the State Board of Health shall promulgate for his further guidance, and for the enforcement of this law.

Sec. 5. DUTIES OF THE STATE BOARD OF HEALTH. Be it further enacted, that it shall be the duty of the State Board of Health:

1. To enforce the provisions of this act.

2. To promulgate such rules and regulations as shall, under this act, be necessary (a) for the purpose of this act generally; (b) for the further and proper guidance of the local health officer in the administration of this law; (c) for the distribution of copies of this law together with information and advice to physicians, etc., and the public generally for their education, etc.

3. To provide for the gratuitous distribution of a scientific prophylactic, for ophthalmia neonatorum, together with proper directions for the use and administration thereof, to all physicians, midwives and the like, and to provide gratuitous treatment in all such cases in which poverty would prevent securing a proper and efficient physician, surgeon or obstetrician.

4. To print, publish and distribute to all heads of families or guardians, personally, throughout the state, advice and information concerning the dangers of ophthalmia neonatorum and the necessity for prompt and effective treatment thereof, together with copies of this law.

5. To furnish similar advice and information together with copies of this law to all physicians, midwives and the like, throughout the state.

6. To keep a proper record of any and all cases of ophthalmia neonatorum as shall be filed in their office in pursuance with this law, and as may come to their attention in any way, and to constitute such records a part of the annual report to the governor and the legislature.

7. To report any and all violations of this act as may come to their attention in any way whatsoever to the prosecuting attorney of the district wherein said misdemeanor may have been committed, and to assist said official in any way possible, such as by securing necessary evidence, etc.

Sec. 6. VIOLATION OF ACT A MISDEMEANOR. Be it further enacted, that the failure of any and all physicians, midwives, etc., as hereinabove set forth, to report as herein prescribed, or the failure of any hospital to record, as hereinbefore enacted, or the failure of any physician, midwife and the like, to treat as the State Board of Health shall have directed, any and all cases of ophthalmia neonatorum, as herein prescribed, and, under such circumstances as are herewith set forth, or any or all of such violations, or any violation of this act whatsoever, as the case may be, shall constitute a misdemeanor under this act.

Sec. 7. COLLUSION A MISDEMEANOR. Be it further enacted, that any collusion between any official and any person, or between any others herein named, to misstate or conceal any facts which under this act are essential to report correctly, etc., shall likewise constitute a misdemeanor, and the accused

shall, upon conviction, suffer a penalty such as is hereafter enacted.

Sec. 8. PROSECUTION: JUDGES OF THE LAW AND FACT. Be it further enacted, that it shall be the duty of the state's attorney, for the proper district, to prosecute for all misdemeanors as herein prescribed. For the purposes of this act the court shall be judges of the law while the jury shall be constituted judges of the facts only.

Sec. 9. ADMISSIBLE EVIDENCE. Be it further enacted, that any and all cases of ophthalmia neonatorum, or the resultant blindness therefrom, in which the accused may have been one of the persons, or class, or classes of persons, as hereinabove set forth in Section 2, whose duty it was to report, etc., as hereinbefore set forth, shall be admissible evidence.

Sec. 10. PENALTY. Be it further enacted, that any person accused of a misdemeanor under this act shall, upon conviction thereof, be fined, for the first offense, not to exceed \$50.00; for the second offense, not to exceed \$100.00; and for the third offense, and thereafter, not to exceed \$200.00 for each violation.

Sec. 11. APPROPRIATION. Be it further enacted, that a sum not to exceed \$2,000.00 shall be annually appropriated for the use of the State Board of Health in enforcing and carrying out the provisions of this act. Any and all necessary and legitimate expenses that may be incurred in prosecuting a case under this act shall, upon a proper showing, be met by the State Board of Health out of this appropriation.

Sec. 12. EMERGENCY. Be it further enacted, that an emergency existing, this act shall take effect upon its passage as by law prescribed.

Sec. 13. REPEALING. Be it further enacted, that all acts and parts of acts in conflict herewith be, and the same are, hereby repealed.

Dr. Branch moved that the proposed bill submitted in connection with the resolution be referred to the Committee on Public Policy and Legislation, and that the Committee report back to the House of Delegates.

Seconded and carried.

The Secretary read the following resolution relating to a proposed optometry bill:

Whereas, Refraction is a part of the practice of medicine; and

Whereas, the Optometry Bill which has been passed in some two dozen or more states is to be introduced in the legislature this summer; therefore be it

Resolved, That the House of Delegates of the Medical Association of Georgia recommends that the Committee on Public Policy and Legislation be instructed to oppose the passage of this bill.

It was moved by Dr. Barron that this resolution be not adopted.

Motion seconded.

Dr. Pilcher moved as a substitute that the resolution be referred to the Committee on Public Policy and Legislation.

The substitute was accepted, seconded, and carried.

The Secretary read the following resolution from the Ware County Medical Society in regard to the discovery of ether:

Whereas, During the presentation of his lecture entitled "Lightning and Toothpicks" on Friday evening, April 16, Mr. Sylvester A. Long, representing the Redpath Chautauqua Association of Chicago, Ill., did suggest or intimate that Dr. Wm. T. G. Morton of Boston, Mass., a dentist, was the first to discover the influence of sulphur ether upon the nerve tissue of the human body; and further suggested that the teachers of the public schools instruct their pupils likewise; and

Whereas, Dr. Crawford W. Long, of Jefferson, Georgia, was the first to discover the effects of this vapor and operated upon a patient under its influence without pain during the month of March, 1842, and this fact has been recognized by various societies and organizations all over the nation and foreign countries, and the State of Georgia, in General Assembly, has voted that his statue be placed in the National Hall of Fame; and

Whereas, Dr. Wm. T. G. Morton did not demonstrate its effects or attempt an operation until September 30, 1846, or four and a half years later than the operation performed under its effects by Dr. Crawford W. Long; therefore be it

Resolved, That we, the Ware County Medical Society, in special session, disapprove of the incorrect statement made by the said Mr. Sylvester A. Long, and object to the teaching being disseminated to the youth of our country, and further object to the attempt to rob the man who is justly entitled to this honor and blessing; and be it further

Resolved, That a copy of these resolutions be sent the Redpath Chautauqua Association,

Chicago, Ill., that a copy be sent to the Georgia Medical Association, which convenes in Macon, Ga., during this week, with request that such action be taken as they deem proper; that a copy be sent The Journal of the Medical Association of Georgia, at Augusta, Ga., and a copy be furnished the local press of our city.

G. N. MACDONNELL,

R. C. DODSON,

B. H. MINCHEW,

Committee.

Dr. Miller moved that the resolution be adopted. (Seconded.)

Dr. Pilcher moved as an amendment that the Secretary take up this matter with the Journal of the American Medical Association and make known the fact that the Medical Association of Georgia had entered its protest.

The amendment was seconded, accepted, and the original motion as amended was put and carried.

Dr. L. C. Allen presented a resolution relative to a ruling of the United States Commissioner and moved that it be referred to the Committee on Public Policy and Legislation.

Seconded and carried.

The resolution is as follows:

Whereas, The United States Commissioner of Internal Revenue has made a ruling that "A physician, dentist or veterinarian must keep a record of all drugs covered by the provisions of this (the federal narcotic) law sold, bartered, exchanged or given away in his office or place of business." Also a ruling that "A record must be kept also of these drugs left with a patient to be taken in the absence of a physician, dentist or veterinary surgeon. Only such drugs as are administered directly to the patient by the physician in person, when away from his office, are exempt from record." And

Whereas, This ruling, in the opinion of this body, is distinctly at variance with the letter and intentment of Section 2 of the federal narcotic law, which declares that "nothing contained in this section shall apply to the dispensing or **distribution** of any of the aforesaid drugs to a patient by a physician, dentist or veterinary surgeon registered under this act in the course of his professional practice only: Provided, That such physician, dentist or veterinary surgeon shall keep a record of all such drugs dispensed or distributed, the date, and the name and address of the patient to whom such drugs are

dispensed or distributed, **except as may be dispensed or distributed to a patient upon whom such physician, dentist, or veterinary surgeon shall personally attend**; and such record shall be kept for a period of two years from the date of dispensing or distributing such drugs, subject to inspection as provided in this act." And

Whereas, The official records of the discussions of this bill, prior to its enactment in the House of Representatives and in the Senate of the United States, and its whole history, clearly show that no such restrictive meaning was contemplated by our national lawmakers as that expressed by the Commissioner of Internal Revenue in the ruling just quoted; and

Whereas, Such ruling and similar rulings will place tremendous and, in our opinion, unnecessary burdens upon the medical profession and the allied professions of dentistry and veterinary medicine. Therefore be it

Resolved, That the Medical Association of Georgia, representing the three thousand regular physicians of the State of Georgia, in their annual meeting assembled, at Macon, Georgia, on this, the 21st day of April 1915, does hereby enter an earnest and emphatic protest against this or any other official extension by regulation of the meaning of the federal narcotic law; and be it further

Resolved, That while this body desires to place itself on record as being heartily in sympathy with the purpose of the federal narcotic law, and pledges its co-operation with the authorities in securing its enforcement, so that every person illegally and inhumanely trafficking in narcotic drugs may be brought to justice, it is emphatically opposed to this or any other extension by bureau action of the law beyond its clear and undoubted meaning as expressed in the statute itself, as likely to prove detrimental to the best interests of the medical profession and the millions of people depending upon it for the alleviation of pain and cure of disease. And be it further

Resolved, That the Secretary of the Association be directed to send properly attested copies of these resolutions to the United States senators from Georgia, to all the Representatives in congress from Georgia, to the Commissioner of Internal Revenue, and that these resolutions be published in the Journal of the Medical Association of Georgia.

On motion the House of Delegates adjourned to meet Thursday at 6 p. m.

SECOND MEETING OF THE HOUSE OF DELEGATES.

The House of Delegates met at 6 p. m. and was called to order by the President.

The Secretary read the minutes of the previous meeting of the house on Thursday morning. He also submitted his annual report as Secretary-Treasurer and the report of the Auditing Committee.

Dr. Mason moved that the report be accepted.

Seconded and carried.

Dr. Pilcher presented a resolution and moved that it be read in connection with the report of the Secretary to the general meeting.

Whereas, five years ago one of our number, Dr. A. G. Fort, was selected by the Rockefeller Commission, through and under the auspices of the State Board of Health, to propagate and put into effect the eradication of the hook worm in Georgia, and in conjunction with the hook worm eradication has carried on a systematic campaign of education along other sanitary lines; therefore be it

Resolved, That we view with feelings of pride the outcome of this work. Pride in contemplation of the effective work done by our own Dr. Fort and his co-workers, not alone in the eradication of the hook worm, which has been marvelous and miraculous, but the further good work of practical education along sanitary lines, which by the educational lectures, magic lantern slides, etc., has been an eye opener, not only to the laity but to physicians as well, and which work is incumbent on us as medical men and Association members to carry on, reminding the profession that should we fail to go on with this work, to a great extent the money spent and various other means employed during this campaign of eradication would have been in vain. And be it further

Resolved, That speaking for ourselves and the thousands of adults and children that have been freed of this infection, our gratitude goes out to the Commission and the State Board of Health for the means by which this was made possible, and for the work accomplished.

W. W. PILCHER,
L. C. ALLEN,
R. H. STOVALL,
Committee.

Seconded and carried.

The Secretary read the report of the Committee on Public Policy and Legislation.

Report of Committee on Public Policy and Legislation.

Mr. President and Members of the Medical Association of Georgia:

After much painstaking and persistent work, your Committee succeeded in having passed by the last legislature both the Public Health Bill and the Vital Statistics Bill.

These bills were passed essentially according to the text of the bills.

The Finance Committee on account of important urgent demands from other sources, refused to make the necessary appropriation for these bills.

Both the bills passed by the legislature are now in the hands of the Georgia State Board of Health.

The following is a part of a letter from Dr. H. F. Harris, Secretary Board of Health:

"Before the Public Health Bill becomes operative it must be endorsed in each county by two successive grand juries, and this, so far as I am aware, has not been done in a single instance; certainly no one has been authorized to act as health commissioner, under the provisions of this act, by our board. I would say that immediately after the passage of this bill we wrote to every judge in the state, calling their attention to it, and asking them to mention the matter in their charges to the grand juries. We also wrote to the ordinaries, the superintendents of public schools, and chairmen of the boards of roads and revenues in each county, but it seems that so far none of them have agreed to take up the matter.

As regards the Vital Statistics Bill, I would say that we appointed a man as registrar, and he has devoted practically all of his time to the work since the bill was passed, but on account of the failure of the legislature to appropriate the necessary funds we have been able to do nothing but get ready, pending the time when this was done. The gentleman just referred to has gotten up all of the forms that were necessary—which was a considerable job—and we had a supply of each printed. As we had no money for the work, it was finally agreed by the printing commission, which has a small fund for this purpose, that the expense of getting out these forms would be borne by them, but when the bill was finally presented they refused to pay.

"For years the State Board of Health has gone on obeying the mandate of the Legislature and trying to do what they were told on a sum which we have uniformly maintained was not sufficient for the purpose, and have got deeper and deeper in debt, until we stopped last year. We have found that we have no legal right, on instructions both by the governor and the attorney-general, to contract for a single solitary thing without the legislature has appropriated the money. It makes no difference whether they have ordered us to do the work or not, under the constitution of the state this is not mandatory on us without they at the same time give us the necessary funds, and if we go ahead and do the work anyway, each member of the Board of Health becomes under the law personally responsible for the debt. The Board of Health will be more than glad to carry out the provisions of this or any other acts the legislature may pass, but it will be absolutely necessary in the future for them to give sufficient funds for the purpose.

"The work of passing both the Public Health Bill and the Vital Statistics Bill by every member of the state legislature has been accomplished.

"In order to make these bills operative, it will be necessary to work on the Committee on Appropriations and the members of the next legislature for an appropriation to make these bills a working actuality."

Your Committee believes it will not be hard to accomplish, and urges that this important matter be given prompt attention.

Yours respectfully,

RALSTON LATTIMORE,

Chairman.

W. F. WESTMORELAND,

L. C. ALLEN,

Committee on Public Policy and Legislation.

Gentlemen of the House of Delegates, Medical Association of Georgia:

Your Committee on Public Policy and Legislation desires to report as follows upon matters referred to us:

1. The communication from the Ware County Medical Society, setting forth the facts that a public lecturer in a certain public address in that county gave credit to another than Dr. Crawford W. Long for the discovery of the anaesthetic properties of sulphuric ether, does not appeal to us as being of sufficient importance to dignify by

any action of this Association. It was only the personal expression of a private individual, whom this society and the public generally know nothing about. And any action by this body on so trivial incident would be of no service to the memory or fame of Dr. Long, and would only serve to advertise the lecturer who made the statement referred to.

2. The Bill for the Prevention of Blindness is meritorious, but the resolution instructing this Committee to work for its passage is, in our opinion, untimely. If enacted, this law could not be enforced in this state at present for lack of proper health officers. We think it would be better to defer efforts for such legislation and to concentrate our energies at present in getting our public health service better organized and better supported, and health officials appointed in the several counties of the state.

3. We recommend that the resolutions regarding the Optometry Bill and the ruling of the Commissioner of Internal Revenue on the Federal Narcotic Law be passed.

Respectfully submitted,

L. C. ALLEN,

W. F. WESTMORELAND.

On motion of Dr. Coleman the report was adopted.

Dr. Pileher presented a resolution in regard to asking the legislature for larger appropriations for the work of the State Board of Health.

Resolved, That the Legislative Committee of the Medical Association of Georgia be and is hereby requested to urged upon the legislature the necessity for larger appropriations to the State Board of Health in order that a whole time health officer may be engaged, the Vital Statistics law made effective, and the efficiency of the Board increased.

It was moved and seconded that this resolution be adopted.

After discussion, which was participated in by several delegates, the resolution was adopted.

Dr. M. A. Clark, delegate to the American Medical Association, reported that Dr. Davis, Dr. Lyle, and himself had attended the sessions of the House of Delegates of the American Medical Association. The first day he learned a good deal about the method of transacting the business of that body. The Georgia delegates responded promptly to roll call at each session and gave strict attention to everything that was done. He was greatly impressed with the facility with which the

House transacted its business through reference committees, and said great wisdom was shown in the selection of these committees; that resolutions and reports were referred to these reference committees, were considered thoroughly by them, and then reported back to the House for action. Business was transacted promptly and very expeditiously. There was no difficulty for any delegate to obtain recognition in the House of Delegates, and that as delegates they were received kindly and with the utmost consideration by both the president and other officers of the Association. It was a great pleasure to find how cordially the Secretary of the Medical Association of Georgia, Dr. Lyle, was received by the secretaries of the different State Associations and by the Secretary of the American Medical Association.

If the Medical Association of Georgia desired to be well represented in the American Medical Association, good delegates should be selected and sent there to represent the Association year after year; that a great many of the delegates from other state associations had been re-elected as delegates year after year, and in this way they became very familiar with the work.

Dr. Clark referred to an amendment to Chapter 7 of the Constitution of the American Medical Association which is to come up at the San Francisco meeting for action relative to giving the judicial council of that body appellate jurisdiction and in the meantime the different component societies were asked to express themselves and instruct their delegates regarding this amendment.

Dr. Davis and Dr. Lyle supplemented what Dr. Clark had said.

On motion of Dr. Branch, seconded by Dr. Hiers, the report was accepted.

Dr. T. J. McArthur moved that the delegates to the American Medical Association be instructed to oppose the proposed amendment to the constitution presented by Dr. Clark.

Motion seconded by Dr. Pileher.

After discussion, the President put the motion, and as there was some uncertainty about the result, a division was called for with the result that nine favored the motion of Dr. McArthur, while twenty-four were opposed to it.

The President thereupon declared the motion lost.

Dr. Branch moved that the House instruct the delegates to the American Medical Asso-

ciation to vote for the proposed amendment.

Seconded by Dr. Miller.

Dr. L. C. Allen moved that the motion be laid upon the table.

Seconded by Dr. Hiers and carried.

Dr. Pilcher moved that a committee of three be appointed by the Chair to draft suitable resolutions in regard to the death of Vice President Dr. Williams of Columbus.

Seconded and carried.

The President appointed as this committee Drs. Pilcher, Allen and Stovall.

Dr. Miller stated that at a previous meeting of the Association a motion was made and tabled to elect officers by nomination. He moved that this motion now be taken from the table and acted on at this meeting.

The President ruled this motion out of order on the ground that the motion to table had gone over one consecutive meeting.

Dr. Branch then offered an amendment to the Constitution, Article IX, Section 3: "The officers of the Association shall be elected at the session by ballot; that nominations shall be made at 3 o'clock of the third day of the annual session. If there is no election on the first ballot, the three highest names shall be voted on, other names being dropped. If there is no election, a second ballot shall be taken, and the two men receiving the highest number of ballots shall go on until an election occurs."

On motion, the House of Delegates then adjourned.

MEETING OF THE STATE, COUNTY AND MUNICIPAL HEALTH OFFICERS ASSOCIATION.

City Hall, Macon, Ga., Tuesday, April 20,
at 10 a. m.

Officers.

President—Mr. A. V. Wood, Brunswick.

Vice President—Dr. Howard Williams, Macon.

Secretary—Dr. T. F. Abererombie, Brunswick.

Program.

Call to Order, by President A. V. Wood, Brunswick.

Prayer.

Address of Welcome.

Reading of the Minutes of 1914 Meeting, by Dr. T. F. Abererombie, Brunswick.

President's Address, by Mr. A. V. Wood, Brunswick.

"The Present Status of Vital Statistics in Georgia," Dr. H. F. Harris, Secretary State Board of Health, Atlanta.

"The State Veterinarian's Relation to Public Health Work," Dr. Peter F. Bahnsen, State Veterinarian, Atlanta.

"Hydrophobia," Dr. B. C. Greer, State Board of Health, Atlanta.

"Food Inspection," Dr. A. L. Haggerty, Chief Food Inspector, City of Augusta.

"Immunity," Dr. K. R. Collins, Assistant Director of Laboratories, State Board of Health, Atlanta.

"How We Can Utilize the Valuable Facts Demonstrated by Medical Inspection of Three Counties and Facts Gathered from Hookworm Campaign," Dr. A. G. Fort, Director of Field Sanitation, Georgia State Board of Health, Atlanta.

"The Ellis Public Health Bill," Col. R. C. Ellis, Tifton.

"Typhoid Fever," Surgeon J. R. Ridlon, U. S. Public Health Service, Washington, D. C.

ANNOUNCEMENT.

The Governing Board has made provision for two Resident Physicians at the new University Hospital. The service is both medical and surgical. Duly licensed graduates are eligible for appointment. The appointments are for one year, subject to renewal; service to begin at once. Besides maintenance the positions carry, each, an annual allowance of \$300.

In the application the candidate should state his educational qualifications and experience. Applications should be addressed to the Governing Board, University Hospital, Augusta, Ga., and directed to

R. V. LAMAR, Secretary.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in your pocket.

NOTICE TO MEMBERS.

Your Editor would ask that any member not receiving his Journal regularly, would kindly report same. Every effort is made in the business office to prevent errors, but we cannot be infalible. It is possible that our efforts, at the last meeting, to allow every opportunity for new members to register, may have caused some omission, but we trust not.

If you hear your brother doctor complain of not getting his Journal, ask if he has had his name reported to the Secretary this year. In other words, if he has paid his dues.

WAGON SHAFT THROUGH NECK.

By F. C. Nesbitt, M.D., Waycross, Ga.

On the evening of April 28 last, I was summoned very hurriedly to the City Y. M. C. A. to attend an accident case, and upon my arrival I found that two young men had been riding upon a motoreycle, my patient sitting in front of the driver of the machine, who had been running at a high rate of speed without lights, and collided with the right shaft of a one-horse wagon which was on the wrong side of the street. The shaft first struck my patient in the right chest near the lower border of the ribs and radiated upward, only raising the skin as it went, until it reached the hollow space just above the sternum, and then entered to the left side of the trachea, between the trachea and the common carotid artery and jugular vein and sterno cleido-mastoid muscle, dissecting artery, vein and trachea clean, the carotid artery and vein lying in position without any tissues attached whatever for about two and one-half inches in length. The shaft then took a downward and backward direction and passed on through the neck to the left side of the seventh cervical vertebra, then piercing the latissimus dorsi muscle and extending through for a distance of more than two feet, striking the driver in the mouth who was sitting to the rear of the machine, loosening four of his teeth. The shaft was the size of a man's wrist and was so tight it was necessary to saw the shaft away before anaesthetizing the patient in order that it might be removed from his neck in the route of least resistance.

The unusual feature of the case was that the man was not knocked unconscious, nor

was there but very little bleeding, no hoarseness, temperature 100 to 101 for couple of days, since then always normal. The shaft was washed with a strong solution of lysol before its removal and afterwards tincture iodine was poured into the wound.

The after treatment has been a constant wet dressing of Wright's solution. There has only been a slight sero-purulent discharge which has now ceased as the lacerations are about healed entirely.

SEVENTH PAN-AMERICAN CONGRESS.

The seventh Pan-American congress will meet in San Francisco, June 17-21 inclusive. It assembles pursuant to invitation of the President of the United States issued in accordance with an act of congress approved March 3, 1915.

The countries and colonies embraced in the congress are the Argentine Republic, Bolivia, Brazil, Canada, Colombia, Cuba, Chile, Costa Rica, El Salvador, Ecuador, Guatemala, Honduras, Haiti, Hawaii, Mexico, Martinique, Nicaragua, Panama, Paraguay, Peru, Santo Domingo, United States, Uruguay, Venezuela, British Guiana, Dutch Guiana, French Guiana, Jamaica, Barbadoes, St. Thomas and St. Vincent. The organization of the congress is perfected in these countries and the majority of them have signified their intention to be represented by duly accredited delegates.

The congress will meet in seven sections, viz: (1) Medicine; (2) Surgery; (3) Obstetrics and Gynecology; (4) Anatomy, Physiology, Pathology and Bacteriology; (5) Tropical Medicine and General Sanitation; (6) Laryngology, Rhinology and Otology; (7) Medical Literature.

All members of the organized medical profession of the constituent countries are eligible and are invited to become members. The membership fee is \$5.00 and entitles the holder to a complete set of the transactions. Advance registrations are solicited and should be sent with membership fee to the Treasurer, Dr. Henry P. Newman, Timken Building, San Diego, Cal.

The general railroad rate of one fare for the round trip, good for three months, made on account of the Panama-Pacific Exposition at San Francisco, and the California Exposition at San Diego, is available for the Pan-American Medical Congress.

The Palace hotel will be headquarters.

The first Pan-American Medical Congress was most successfully held in the United States in 1893. Five intervening congresses have been held in Latin American countries. It now devolves upon the medical profession of the United States to make this, the seventh, the most successful in the series.

C. A. L. REED, President,
Union Central Building, Cincinnati.
HARRY M. SHERMAN,
Chairman Committee of Arrangements,
350 Post Street, San Francisco.
RAMON GUITERAS,
Secretary General,
80 Madison Avenue, New York City.
PHILIP MILLS JONES,
Special Committee on Hotels,
135 Stockton Street, San Francisco.

SAN FRANCISCO MEETING.

I have received a number of letters of inquiry from physicians who will attend the forthcoming meeting of the American Medical Association. They have asked about transportation, Pullman rates, hotel accommodations, side trips, etc. I submit herewith three special plans which are being patronized, viz: (1) The Gregory Tours, (2) The McCann Tours, (3) The Pennsylvania Railroad Tours. There may be others, but these are the only ones of which I have knowledge.

The Chicago Medical Association is accepting the services of the Gregory Tours. It leaves Chicago June 17, via Chicago & Rock Island railroad to Colorado Springs and from there over the "Scenic Route," arriving at San Francisco June 21. The return route may be made over any road you desire. The Gregory tours will route you over other roads if you prefer. The plan of the Chicago Medical Society is as follows:

First class railroad ticket to San Francisco, Los Angeles, San Diego and return.

Railroad ticket good for ninety days.

Pullman standard sleeper to San Francisco, giving an entire section to two persons.

If two persons occupy one berth there is a reduction of \$10 on the two tours.

Transfer of member and checked baggage to and from hotel at San Francisco.

Seven consecutive days at the Hotel Plaza or Bellevue in San Francisco (only two in double room, including seven breakfasts).

Seventy-five per cent of rooms with private bath, those making first reservations having first choice.

Seven admissions to Panama-Pacific International Exposition.

Admission to twenty attractions within the exposition grounds.

Trip to Chinatown, with guide escort.

Steamer trip (four hours), San Francisco bay, viewing the Golden Gate and exposition grounds.

Key trolley trip (seven hours) through Oakland, Alameda and Berkeley, visiting the University of California, famous Greek theater and Idora park.

Trip to Mt. Tamalpais (eight hours) on the "crookedest railroad in the world".

The total expense of this tour as outlined is as follows:

Tour "A", Plaza or Bellevue Hotels—

From Chicago	\$141.00
From St. Louis	135.00

\$17.50 extra railroad fare to return via Northern route.

Those who buy their own railroad ticket and want accommodations at San Francisco, June 21-28, including all features as outlined above, the price will be \$65.50. Rates from different railroad points will be furnished on request.

Each reservation must be accompanied by a deposit of \$10.00 and \$10.00 additional in thirty days, same to be retained by Gregory Tours as "reservation rights" payments. Balance to be paid thirty days before departure.

Make all checks payable to Gregory Tours Co., Lytton Building, Chicago, sending same to Dr. R. R. Ferguson, 3923 North Keeler avenue, Chicago, who has charge of reservations.

Tour System of the Pennsylvania Railroad.

This tour system is being operated in the interest of the Pan-American Medical Congress, which meets in San Francisco June 17-21; also the American Medical Association meeting, which follows immediately thereafter. The following is an announcement which I received:

Cost of Trip.

The fares given below cover round-trip to San Francisco, going on special train, as indicated, and returning via direct routes; Pullman accommodations (one double berth) from starting point to San Francisco. All meals in dining car will be on the a la carte basis and will be at individual expense.

New York, N. Y.....	\$128.40
Philadelphia, Pa.	123.30
Baltimore, Md.	116.05
Washington, D. C.....	116.05
Harrisburg, Pa.....	113.65
East Liberty, Pa.....	102.55
Proportionate rates from other points.	

Extra Charge for Drawing Rooms and Compartments.

(Over and above regular Pullman berth charge.)

One person in drawing room.....	\$45.00
Two persons in drawing room, each.....	13.50
Three persons in drawing room, each.....	3.00
One person in compartment.....	32.50
Two persons in compartment, each.....	7.25
One person occupying whole section.....	14.40

Two railroad tickets will be required for the exclusive use of a drawing room, and one and one-half tickets for the exclusive use of a compartment.

For additional information and booking on either the "Pan-American Medical Congress Special" or the "American Medical Association Special," application should be made to Dr. H. L. E. Johnson, Chairman Transportation Committee, Pan-American Medical Congress, 1821 Jefferson Place, Northwest, Washington, D. C.

McCann Tours.

The following is from the Journal of the American Medical Association:

"NEW YORK AND NEW ENGLAND SPECIAL.

"This train will be under the management of McCann's Tours. The itinerary is planned to provide a fast schedule over an interesting route for the outward trip, leaving Eastern points as late as the afternoon and evening of June 16, and getting to San Francisco on Sunday evening, June 20. The return trip will be made in a leisurely manner over an interesting scenic route, including a trip from San Francisco to Portland by way of the Shasta line. Stops will be made at Portland, Seattle and Spokane, and a five-day trip through the Glacier National Park is planned. The itinerary as has been noted, contemplates leaving New York at 2 p. m., June 16, over the New York Central lines, thence by way of the Chicago, Milwaukee & St. Paul, the Union Pacific and Southern Pacific to San Francisco, where the party will

stop from Monday, June 21, to Friday, June 25, leaving San Francisco at 8 p. m. on the last named day. From Wednesday, June 30, to Sunday, July 4, the party will be in Glacier National Park, returning to New York on Thursday, July 8."

Those who do not find time or are not disposed to return by the route indicated, may arrange to take the special train to San Francisco, and to return within three months after the date of starting, by an authorized route selected.

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J. RAWSON PENNINGTON, M.D.,

Chairman, Committee on Transportation and Place of Session.

THE GEORGIA OPHTHALMIC SOCIETY.

At the Macon meeting the above society was organized. It is purely social in character and is composed of members of the State Association engaged in eye, ear, nose and throat work.

The main object of the society is to enable its members to become better acquainted with each other in consequence of the annual dinners which are to be given during the meeting of the State Association.

At the last meeting an executive committee was appointed to take charge of the affairs of the society and draft such rules for its government as may be necessary, and submit them at the next meeting.

We regret very much that every member of the State Association was not present at the last annual meeting. In our opinion it was the best meeting the Association has ever had. The city of Macon and the Macon physicians are both famed for their hospitality and on this occasion they exceeded themselves. Particular praise should be accorded the Committee of Arrangements in their selection of headquarters, and they were indeed fortunate in being able to secure a hotel with every convenience and facility that might be demanded by the Association as a meeting place.

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*A Pharmacodynamic Study of the Pituitary Gland, with Tests of a New Product, by Heidlberg, Pittenger and Vanderkleed.—Jour. A. Ph. A., June, 1914, page 808. The Application of Some Muscular Tissues Adapted to Physiological Standardization, by Stewart and Pittenger.—Monthly Cyclopedia of Medicine, July, 1914, page 305.



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CLINICAL OBSERVATIONS ON BLOOD PRESSURE.*

By J. H. Honan, M.D., Augusta, Ga.

The subject of blood pressure as a guide to the physician, whatever and wherever his practice may be, is one of great importance.

The significance of blood pressure, which is such a vital matter to the specialist and his patients, is one of equal or even greater importance to the physician in general practice. It is the family physician who in his daily practice must make the first and important decision for patients, who must give due weight to the symptoms and upon whose advice the majority of patients depend. It is entirely upon this first and important judgment of the general practitioner that the majority of patients come under the care of the specialist, and hence that this first advice of the physician in general practice, his observation and history of the case are of such great value to the specialist, while the further observations and experience of the specialist become of value to the general practitioner, enabling him to prolong the lives of our

fellow men, in his broader field of activity with its greater opportunities.

Case No. 1. The following case is of interest principally in showing that a patient may be relieved of distressing symptoms with but little reduction in blood pressure. Mr. D., age 54, came to me in December, 1912, with a blood pressure of 282, suffering from all the pressure symptoms in the most aggravated form. Gastric symptoms so interfered with the digestion that the patient lost weight rapidly. The head symptom he described as an iron band with a clamp screw that tightened until he almost lost consciousness and occasionally he suffered from angina abdominus or excruciating vicerohyphusensory reflex pains.

Six weeks' treatment relieved the distressing head and abdominal pain. The digestion was much improved. Walking, however, more than usual or faster than usual would bring on the head pain which was of milder form and of shorter duration. The general improvement was quite marked, though the blood pressure at the end of the treatment had only reduced to 240 mm. Hg. In August, 1913, patient came to Germany for another course of carbonic acid brine baths, which further reduced the endovascular pressure to

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

202. I have not seen the patient since September, 1913, but a report from him two months ago states he is quite comfortable, doing his work as a lawyer and congressman, though his blood pressure continues above 200 mm. Hg. (Urine analysis showed a slight trace of albumin and some indican.)

Case No. 2. Another case illustrative of the same principle. Mr. M., age 59, was entirely unconscious of having a blood pressure until he applied for life insurance and was rejected on account of the high endovascular pressure. A number of sphygmomanometric readings range from 252 mm. Hg. to 264. Aside from the annoyance this patient suffered from knowing his endovascular pressure was abnormally high, there was no subjective manifestation of the hyperpiesis of which he was conscious. He has had for the past five years eye trouble, rupture of arteries of the eye which he had not associated with high pressure.

Case No. 3. Mr. C., age 42, superintendent of iron works, went to his doctor for feeling of fullness in head and nervousness. His physician was present when I took his blood pressure reading at 288 mm. Hg. The patient complained of a severe fullness in the head when he bent forward and extreme nervousness which at times caused insomnia. I was unable to discover any foci of infection or anything in his business or domestic relations to cause such reaction to the vasomotors. The treatment relieved the nervous symptoms and the patient was quite comfortable, but the blood pressure remained between 250 and 260 mm. Hg. with left ventricle hypertrophied and dilated, and pressure murmur of aortic valves.

Case No. 4. Mr. Mc., age 56 years, came to me in a very nervous condition. He had been told he had a high blood pressure and he feared the end might come with every move of his body. The sphygmomanometer registered 248 mm. Hg. In twenty days, hydrotherapeutic treatment being employed, his endovascular pressure had dropped to 190 and in four weeks had come down to 184. To prevent a too rapid fall in this case I reduced the temperature of his baths more than is usual in such cases. His improvement was marked and continued. He played golf daily and careful inquiry and examination failed to elicit any signs or symptoms of ill effects due to the rapid reduction in blood pressure. Contrary to the general rule, the pulse in the beginning was rapid

and gradually became slower as to endovascular pressure reduced. There was no evidence of any disturbance in the kidneys. Frequent sphygmomanometric tracings were taken in this case and though there were fluctuations observed the general trend of the readings was downward. The nervous symptoms cleared up and the patient was much more cheerful. The patient has now returned to his home and taken up his work. The pressure which causes distressing symptoms in one patient may not affect another, as in the case of Mr. D., whose endovascular level was evidently somewhere between 282 and 240 mm. Hg. At what high level distressing symptoms begin, depends on the integrity of the myocardium and the vascular walls. In almost all high blood pressure cases the nervous symptoms play a prominent part, occasionally preceding and always accompanying.

The kidney manifestation in all of these cases was unimportant, as in only one was there a trace of albumen. All showed indican in varying quantities, indeed in my practice indican has been more constantly and commonly present in the urine of high blood pressure cases than albumen or sugar.

In all these cases, carbonic acid saline baths were given in courses varying from 20 to 25, with such duration of bath and such temperature as the individual case seemed to demand, with modification of both, either by increase or decrease, at each treatment as the symptoms and manifestations of the patient indicated. The sequence or grouping of the baths was also an important feature of the treatment.

Although the doctor is aware "as long as circulation is kept up there is a pressure of some kind," and that "blood pressure as the term implies is the pressure of the flowing blood in the blood vessels, maintained to a normal or abnormal standard by the pumping of the heart, by the quality of the blood and by the condition and elastic response of the tubes through which it passes—the former (that is the normal pressure) where the three essential factors are normal—abnormal pressure where one, two or all of the factors are deficient, unless such deficiency of the one be counteracted or compensated by another."

First. The work of the physician then begins in determining the deviation from the normal. He must bear in mind not only the approximate normal pressure, but the normal

variation of such—that the average of the normal pressure of women runs lower than that of men, and that there are natural variations of normal pressure for the individual and that emotion or other transitory conditions are responsible for temporary change, that with due recognition of the great value of instruments, we must not depend on them for the exact standard for the normal blood pressure of the individual and that it is important that we bear in mind that there may be considerable variation in pressure without departure from the normal and all signs should be watched which lead to an approximate estimate of the normal pressure and deviations therefrom for the individual patients under our care.

Second. We must ascertain, if possible, the cause of deviation. So many things are important in diagnosis, the age of the patient, critical periods of life for men and women, the nature of the patient, physical and mental, his nervous tendencies, his habits, temporary nervous strain, history of infectious disease, his errors of diet. These matters are important in diagnosis and significant guides to treatment.

Experience teaches the physician not to give undue importance to the often found increased blood pressure of women just before the period of menstruation, or during the time of pregnancy, or to the temporary high blood pressure of the individual past fifty, which may simply be the result of lack of exercise, of temporary constipation, or of an over-heavy meal. Periodic high pressure, however, is likely to become chronic or continuous if let recur too often, and extended observation of the patient is advisable. We find that man can live and move about with a blood pressure above 260 mm. Hg. We observe the frequency with which blood pressure as a primary symptom occurs and the thickened arterial walls, kidney, brain and gastric complications as end results, but that as a diagnostic factor it must be considered only in its relationship to many other auxiliary conditions. I have found where the blood pressure has existed for some time, the enlargement of the left ventricle is much greater than the clinical picture would indicate and it not infrequently occurs that the orthodiagram reveals a hypertrophy and dilatation out of all proportion to the blood pressure readings. This condition in my opinion is due to a pre-existing higher pressure which has gradually receded as the

myocardial dilatation has extended. When this stage of the condition is reached, there are disturbances of other organs which make the clinical picture of a deranged circulation complete.

Third. The treatment of patients. Medical men long ago decided that the question of blood pressure resolved itself into something more difficult than the reduction of high pressure or the increase of subnormal pressure, such modifications being more or less easily brought about.

The chief thing for the physician to decide is what effect such change will have on the health of the patient, for that very health of the patient, it is unnecessary to say, we physicians must always keep in mind as our foremost consideration. All of the diagnostic signs for treatment may not and probably will not be determined at the first examination and hence two patients who have exactly the same high pressure of 240 mm. Hg. may be treated in quite a different way, depending not only on the varied response of the two patients to treatment, but on the individual peculiarities manifested by the patient, watched and intelligently interpreted by the physician. General rules may be laid down for the guidance of our medical students, but every physician of long experience has an understanding of things which guides him every day in the treatment of individual patients which he as a teacher cannot impart, and which, if he could, he might not choose to do, fearing that students might generalize to a dangerous degree.

Primarily blood pressure may become compensatory and necessary to the proper supply of blood to the vital organs. This necessity may arise from the gradual thickening of the arterial wall, constricting the lumen of the vessels, thus admitting of a lessened volume of blood at each pulse wave. With such conditions increased blood pressure is absolutely necessary to the maintenance of the circulatory equilibrium in the vital organs. If the high pressure is compensatory, the destruction of the compensation by any means which does not at the same time make high pressure unnecessary is a dangerous procedure. As a general rule, changes in the pressure should be brought about slowly with the greatest vigilance on the part of the medical attendant.

In cardiac neurosis there is an increased systolic pressure. It is a still more common accompaniment in vascular neurosis,

in nephritis, in hyperitonis. In a large per cent of my cases of arteriosclerosis I have found no increase in the systolic blood pressure and hence I consider it of little diagnostic significance in these cases. The diastolic pressure is a much better index of the condition of the arterial wall than is the systolic pressure reading.

Where the blood pressure is very high, the patient complaining of a tight feeling across the brow and general bodily tension, very little reduction often affords the patient comfort, until careful measures are employed for the correction of the troubles, which, however, may continue to demand a somewhat high compensatory pressure. The wonderful self-adjusting mechanism of the body does its best to keep the supply up to the demand. To furnish the supply called for, however, the taut vessels or the machinery may be at the breaking point. Hence slight decrease in pressure may not only eliminate the danger but usually relieves the discomfort and sleeplessness from which the patient suffers, in such as measure as to more than make up for the shortage of supply.

In a number of cases suffering from various forms of nephritis, under my observation for some time, I have found the diastolic pressure so persistently high that I look upon it as symptomatic of kidney disturbance. Here again I am convinced that the endovascular pressure is primary and frequently the cause of nephritis, as a marked endovascular pressure is often found for months before any evidence of nephritis can be discovered. Endovascular pressure, particularly where the diastolic pressure is high, may be taken as a premonitory sign of nephritis. The diastolic pressure is usually low in cardiac or vascular neurosis and much less constant, often showing a marked fluctuation within a few hours. In my experience with cardiac vascular neurosis I have found the widest divergence in endovascular pressure. In one case recently examined I found a systolic pressure of 242, in two others a pressure of 264 and 256 were registered (Uskoff's sphygmotonomograph). In advanced cases of nephritis the endovascular pressure may reduce gradually and not infrequently a rapid fall in the systolic pressure may be observed. This is usually due to one of two conditions—the failing myocardia is no longer able to meet the added strain put upon it by the increased resistance in the vascular walls causing a sudden dilatation, or the vaso-

constrictors are becoming paralyzed. The fact that a sudden fall in endovascular pressure has been accompanied by serious pathological changes in the myocardium or vasomotors has caused many to cry out against the reduction of pressure by any therapeutic measure. Observation in my own practice convinces me this is a mistake. Many cases of hyperpieses where the pressure reduction has been gradual, though marked, have shown a decided improvement and in no case have I had ill effects following a fall in endovascular pressure. I have had a number of cases of high pressure, some of whom have shown a marked reduction in the sphygmomanometric readings, and in no case have I been able to trace a dilatorious symptom to the reduction of the endo-vascular pressure. I believe by carefully regulating the diet, the intake of fluid, with strict limitation of salt, the quality and particularly the quantity of the food, the activity of the bowels and the cautious administration of carbonic acid brine baths at the proper temperature, the regulation of exercise or Swedish gymnastics, one can reduce the great majority of high blood pressures not only with safety but with excellent results to the patients. Some of the most obstinate cases yield but slightly to this treatment and in no case of hyperpiesis have I observed any marked increase in the endovascular pressure after the carbonic acid brine baths had been administered. There occasionally occurs a slight temporary increase in the sphygmomanometric readings due to the increase in the peripheral circulation which soon reduces as the circulatory equilibrium becomes readjusted, usually within a few days after the treatment.

Low blood pressure which has a less significant place in the physician's practice may be traced to various causes—weakness of heart muscle from overwork or worry, from intemperance in drink or in sexual indulgence. An enfeebled condition following valvular or myocardial trouble may give rise to the low pressure, or the low pressure may be the fatigue or weakness brought about by a very high and continued pressure.

Insufficient quantity of blood, or poor quality of blood of the anemic is a common condition of subnormal blood-pressure patients. There is a surprisingly large per cent of patients who show a subnormal blood pressure. This condition is found in all ages

so that the age classification has no bearing on the etiology.

True we find hypotonus much more often under thirty than above that age, but it is by no means confined to the young. In my experience a weakened myocardium was the causal factor in 65 per cent of my cases. In a large number of myocardial insufficiencies, cachexia, following some vitiating infectious disease, was the direct cause. A number of these are also due to some complicated disturbance in the internal secretions. Many of the cases of myocardial asthmia found in patients at puberty or earlier may be traced to some childhood disease which deranged the internal secretions, with a subsequent impoverished blood supply to the myocardium, thus disturbing the circulatory equilibrium through all the organs of the body. Tobacco and lead poisoning are not infrequent causes of subnormal blood pressure. Two cases following tobacco poison came under my notice during the past summer, both young men of 19 and 21 years respectively. The latter suffered from the less dangerous form of angina pectoris, that which is accompanied by a subnormal blood pressure. This patient's systolic pressure was 108 to 112. Any disturbance of the vasodilators may cause a subnormal blood pressure. Severe pain may also cause a temporary decrease in blood pressure, as angina attacks or the pain of tabes, indeed any vasomotor attack. Most patients with a subnormal blood pressure have a rapid, soft pulse, easily compressible between the systolic waves. This is particularly true where the low blood pressure is due to vascular neurosis accompanied by anginal pains.

The indications for treatment in all of these conditions are, to get the secretions started, to slow the pulse frequency and tone up the arterial walls. The baths administered in these cases are usually at neutral zone of temperature and with the series gradually decreased in temperature until the effect of cold is observed in the pulse, when the compensatory pause becomes longer, the systol more complete, and the pulse wave stronger.

There are many causes for high blood pressure, some of which are not well understood. The most common causes for super-normal blood pressure, which come under my notice, are errors of diet, worry, grave responsibility, chronic constipation. More and more there is an accumulation of evidence from early sphygmomanometric readings and

clinical observations which points to blood pressure as primary.

Cautious reduction of high endovascular pressure is fruitful of excellent results in most cases and I believe should be undertaken in all cases where the degenerative changes in the arterial walls are not too far advanced.

FAILURE TO RECOGNIZE THE NORMAL VARIATIONS OF THE ABDOMINAL VISCERA A CAUSE OF POOR RESULTS IN ABDOMINAL SURGERY.*

By Baxter Moore, M.D., Atlanta, Ga.

The different organs of the body have a wide variation as to shape and size. These variations are not necessarily abnormal or pathological. No part of the body contains organs so variable in this respect as does the abdomen.

There is the greatest difference in the dimensions of every man in his general appearance as compared to any other man, this is due to the fact that even every cell which enters into the composition and formation of the human, animal or for that matter vegetable life, has its own individuality. It matters not how small the cell, if you have a lens of sufficient power so as to enable you to study the individual cell you will find that there is quite a difference in the shape and size of each cell as compared with its adjacent cell. This difference in the shape and size of the cells which compose any body, accounts for the personal difference in men and the difference in each leaf on the same tree.

No man is exactly like any other man in physical form or mental faculty, and it is because of the fact that there is such a wide variation in the component parts which enter into the formation of his body and of his brain.

A full appreciation of this normal variation in the different organs of the human body as well as the body as a whole, I feel has been sadly neglected by the profession at large, because of the fact that in the study of anatomy both descriptive and microscopically there is not enough emphasis laid upon the fact that there is quite a personal equation in the formation of every organ of a man's body, i.e., a comparison of the same muscle in two different men will portray

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

quite a different picture as to size and shape, and a comparison of the same limbs of the same two men will show a much greater difference as to size and shape, because there is such a difference in the component parts of those limbs.

In the study of the viscera of the abdomen we deal with a whole and distinct organ and upon close study you will find there is a very great variation in the shape and size of these organs when compared with the same organs from another body, and still bot hmay be perfectly normal in structure and in function.

The physiological function of the different organs which make up the viscera of the abdomen also causes a wide variation in the shape, size and general appearance of a number of abdominal organs from time to time, such as enlargement of the spleen in malarial infection, enlargement of the ovary before, during and after the rupture of a Graafian follicle.

There are undoubtedly many slight embassions of the alimentary tract which cause enlargement of the lymphatic glands of the abdomen, which is not a disease of the lymphatics but a temporary physiological enlargement of the glands, which is necessary and normal for the time.

The two conditions, individual construction and normal physical enlargement, at times causes the greatest difference in the microscopical appearance of the intestines, the individuality of the kidney is also to be considered, the mesentery, the omentum and in fact this personal equation of each and every organ should be duly considered and then the due consideration of physiological change, which is brought about by other normal conditions and not a pathological condition of the organ under suspicion, should be well considered before the organ is condemned and removed.

I have not mentioned in this paper the pathological changes found in the viscera of the abdomen, for they would fill a large volume.

As for the bad results in abdominal surgery due to the failure of the surgeon to recognize the conditions I have outline, too much cannot be said. Just think of the harvest of normal ovaries, fallopian tubes and uteri which have been removed within the past fifteen or twenty years, and at the present time the percentage is far too high.

The development of the X-ray has been of

wonderful assistance to the medical and surgical world, but I do fear that an overzealous insertion of X-ray plates to conform to what the surgeon and physician wants to find, will cost humanity a great toll.

The revenue now since the institution of the bismuth meal has undoubtedly been very heavy in normal intestines.

I do not mean to imply that I for one moment think that the X-ray has done more harm than good, for I do not, on the other hand I consider the X-ray one of, if not the greatest adjunct in the diagnosis of surgical conditions.

I do fear, and I think justly so, the wholesale removal of sections of intestines with awful after results, as was the case in the removal of the ovaries for the cure of dysmenorrhea. Even at this late date ovaries which are perfectly normal are removed because of imaginary pathological structural change, or change of position of the organ.

The ovary is not an absolutely fixed organ and its position is very variable, within certain limits, these limits are more liberal than is usually recognized by the surgeon at large.

A surgeon is no more justified in the stand that a prolapsed ovary should be removed than he would be if he took the stand that every left testicle which hangs lower than the right testicle in the same man should be removed.

The uterus has also suffered from the fact that its size and shape within certain limits is a personal equation. I am sure that it has been removed many times when it was not the offender at all.

A case I think well adapted for illustration as to the point I have tried to bring out in this paper is a case of appendicitis I operated upon some years ago.

Upon examination the patient was found to have, as well as could be determined, a suppurative appendix and a digital examination of the uterus revealed, as I interpreted the condition, a different shape from any other uterus I had ever examined, so a median line incision was decided upon.

A suppurative appendix was removed and upon examination of the uterus I found that there was no right cone to the uterus, the right lateral wall and the fundus joined without the formation of a cone on that side, and there was no falopian tube of the right side. There was not the least trace of any inflammatory condition having ever disturbed the uterus, both ovaries were normal,

the uterus was quite different in shape from what you usually find. The patient was the mother of several normal children and has since given birth to other perfectly normal children.

The above I consider an abnormality, but certainly not pathogenic in origin and of course needed no surgical attention.

In a previous part of this paper I alluded to the method of teaching anatomy. I again make the assertion that enough stress is not laid upon the fact, in the study of anatomy, that the subject under study varies, certainly to an extent, from any other cadava in its anatomy both macroscopically and microscopically. This fault, as I see it, is unfortunately not confined to the teaching of descriptive anatomy, but is also true to a much greater extent in the teaching of macroscopical pathology.

I am aware of the fact that a wealthy compellation of correlative pathological phraseology is sometimes impressive, but in most cases is most misleading, for the fact remains that the surgeon should be most proficient in the knowledge of descriptive anatomy, first the normal, the normal variations, and then the macroscopical appearance of the organ abnormal or pathogenic.

It is not my purpose in this paper to under-rate any branch of the study of medicine which has the least bit of virtue, but I hope that this short topic may be a factor in stimulating a better and more thorough study of clinical symptoms in surgical cases and a far better knowledge of the different organs of the body as they appear normally and their normal variations.

I know that far too many organs are removed from the abdomen with only the hope that the pathologist will find some condition which will justify the guess the surgeon has taken, but sad to relate, far too often the pathologist cannot justify by his findings the removal of the organ, but finds the organ but slightly removed from the normal except possibly and most likely in size and shape, according to the standard of that particular surgeon.

I am aware of the fact that every surgeon should know what I have tried to emphasize in this paper, but they do not keep the fact before them and at times it does seem that they turn an eye upon an abdominal organ only to remove it, especially if nature can compensate for the loss of the organ.

If this reminder to any one of the profes-

sion, of what he already knows or should know, will save but one normal abdominal organ, I will feel fully repaid for my efforts.

UNDESIRABLE PROVISIONS IN THE PRESENT VITAL STATISTICS LAW AND SUGGESTIONS FOR THEIR CORRECTION.*

**By Emory R. Park, M.D., Director Publicity
Department, and State Registrar of Vital
Statistics, Georgia State Board
of Health, Atlanta, Ga.**

Just as it is the duty of the superintendent of a mill to look out for imperfections in the machinery under his supervision and to see that proper repairs are made when necessary, so also it is the duty of the chief officer of a vital statistics bureau to point out imperfections in the legal machinery under his direction and to see to it that insofar as possible the proper corrections are made.

A cotton mill may turn out cloth regardless of the fact that many of its machines are out of adjustment and are operated by more or less indifferent workmen. However, the cloth will be of inferior quality, the total amount of the product will fall short of what should be produced, and its value will necessarily be low. In a like manner vital statistics law is far from perfect, and the work is being carried on by indifferent workmen. The data collected, however, will necessarily be faulty, the amount collected will fall short of what should be the total, and the value of the figures below what it should be.

Having been appointed state registrar of vital statistics, and having thoroughly familiarized myself after several months' careful study with the various phases of the rather complicated machinery of our vital statistics law, I deem it my duty to call attention to certain matters which I feel are in great need of correction, and I wish to emphasize that these corrections should by all means be made before the law is put into operation, so that there may not be even in the beginning any lost motion, any unnecessary expense, or any low grade product.

As it is necessary for a private corporation to have capital before it can begin work, so is it also necessary for a state department to have funds before it can begin to operate.

*Read at the meeting of State, County and Municipal Health Officers' Association, Macon, Ga., April 20, 1915.

My first suggestion is therefore that money be provided and in sufficient quantity to enable those in charge to secure a suitable place—there are no vacant quarters in the capitol now—in which to carry on the work, to obtain reasonably good working equipment, and to employ workmen possessed of skill and intelligence. Since the present law does not provide any funds at all, it has been, of course, impossible to begin the work, and if only small amounts are provided in the future, the amount and value of the output will be to a great extent proportionately small.

I wish now to read you Section 3 and a part of Section 4, of the present law:

“Section 3. That for the purposes of this Act the State shall be divided into registration districts, as follows: Each city, each incorporated town and each militia district shall constitute a primary registration district, and that portion of any militia district outside of the cities and incorporated towns therein shall constitute a separate and distinct registration district.

“Section 4. Be it further enacted by the authority aforesaid, That in the cities the city clerk shall be the local registrar, and in the incorporated towns the town clerk shall be the local registrar, and that in the militia districts of the State, the justices of the peace and notary publics and ex-officio justices of the peace shall be the local registrars, and for that portion of the militia districts outside of the cities and incorporated towns, therein, the justice of the peace and notary public and ex-officio justice of the peace shall be the local registrars under the terms of this Act. Should there be no justice of the peace or notary public or ex-officio justice of the peace in any militia district, or should both of said officials be absent from their district, in that event, the justice of the peace or ex-officio justice of the peace for any adjoining militia district in said county or of the militia district in which the county site is situated may perform any of the duties of the local registrar for said district required under the terms of this Act; and each registrar shall in such cases note on each certificate, over his signature, the date of filing, and shall forward all certificates to the local registrar of the district within ten days, and in all cases before the third day of the following month, and if there be no local registrar for said district such certificates shall be forwarded to the local registrar of the

militia district in which the county site is situated, who shall make all reports for said district to the State registrar and shall perform other like duties of the local registrar for such districts under the terms of this Act. Any local registrar, who in the judgment of the State Board of Health, fails or neglects to discharge efficiently the duties of his office as set forth in this Act, or to make prompt or complete returns of births or deaths as required thereby, shall be forthwith removed by the State Board of Health and such other penalties may be imposed as are provided under Section 21 of this Act.”

I do not think the present arbitrary division of the State would work out to the best interests of all concerned. Neither do I think it wise to limit the appointment of the local registrars to a certain class of men. My objections to the present arrangement of registration districts is based on the following facts: Georgia has 152 counties divided into over 1,700 militia districts, inhabited by more than two and a half million people. Some of the counties are large, some small. The large ones have to a certain extent proportionately large militia districts, but such large divisions do not have any more justices of the peace, or ex-officio justices of the peace and notaries public than do the smaller ones. In some of our districts people would have to make round trips of about thirty miles over terrible roads, maybe, in order to get permission to bury their dead; this is an unfair imposition on them and would result in making the law very unpopular, and in large number of violations of it, with consequent incomplete statistics; and by the law designating a certain class of men as the local registrars it has the effect of attempting to force men to do work for which many of them are not fitted, and many of whom not feeling any interest in it and not appreciating its importance would totally neglect it, or else handle it in a half-hearted way. The above facts being incontrovertible, I feel that it would far better be left to the State Board of Health or to the State Registrar to divide the State into such districts as they or he may think best after having made thorough studies of the variations in the density of population and other local conditions. I also think it would be best to allow the State Registrar to appoint the men who are to be his representatives and assistants in the various registration districts. I further believe that each local registrar should be re-

quired to appoint as many sub-registrars as local conditions should demand for the convenience of the public and for the good of the Vital Statistics Department. The registrars and sub-registrars should receive a commission from the State Board of Health and should be allowed to hold office as long as they give mutual satisfaction to the State Department and to their respective communities.

I wish in this connection further to call attention to the fact that while the present law seeks to provide a substitute to act at times for the justices of the peace and notaries public, there is absolutely no provision made for a substitute for the city clerks. The last few lines in Section 4 state that "any local registrar, who in the judgment of the State Board of Health, fails or neglects to discharge efficiently the duties of his office as set forth in this Act, shall be forthwith removed by the State Board of Health," etc. Since the body of men comprising the State Board of Health is scattered in widely separated parts of the state and only come together in executive session semi-annually or quarterly at most, and since it would inevitably cripple the work and cause great inaccuracies in the figures to have an incompetent man as local registrar, and especially so if he were in a large community, I think it would be better to allow the Secretary of the State Board of Health or the State Registrar, or both in consultation, to remove an unsatisfactory officer as promptly as he may be discovered to be such. Furthermore, under our law there is no provision made for replacing the city clerks in case they refuse to act, or do the work in an unsatisfactory manner.

Section 7 sets forth the items which the death certificate shall contain. They are twenty in number and to them I think it would be well to add two more. To-wit: Was a post mortem examination held? If so, give summary of findings.

A clause in Section 9 provides that in case a body is to be shipped the undertaker shall attach the removal permit to the outside of the box containing the coffin. I would point out here that the standard transit permit is about the size of one of these sheets of paper and sets forth certain facts about the deceased which should out of consideration for the memory of the dead and out of consideration for his or her family or friends be kept from the station loafer and the village gossip.

I suggest, therefore, that the law require the undertaker to put the transit permit in an envelope before tacking or pasting it to the box.

Section 16 reads in part as follows: "Every physician, midwife, and undertaker shall, without delay, register his or her name, address and occupation with the local registrar of the district in which he or she resides, or may hereafter establish a residence, and shall thereupon be supplied by the local registrar, with a copy of this Act, together with such rules and regulations as may be prepared by the State Registrar relative to its enforcement." In other words it is made obligatory on the State Registrar to guess how many people are going to register in more than 4,000 registration districts, and to have enough literature at each place to supply all who may record their names. This would result in an enormous waste or else if the said officer attempted to make 4,000 individual estimates some places would get too much material and others not enough. To avoid these undesirable contingencies I would think it proper to require all directly concerned to register their names and occupation by a certain date, and that the State Registrar be furnished immediately thereafter with duplicate copies of the lists in each of the various districts. In this way the Vital Statistics Bureau would have definite data upon which to base its shipments of supplies. Under the present arrangement \$2,000 worth of paper is required, and \$5,000 worth of printing will have to be done as the initial order—these are the estimates arrived at by the State printers and myself after carefully studying the situation.

I cannot say that "excepting these things the law is all right;" there are other undesirable provisions which could be pointed out, but they are of minor importance and I will not detail them here. I wish to repeat, in conclusion, however, that I consider it of the utmost importance to the treasury of the State and to the welfare of the vital statistics undertaking that the above corrections be made before any attempt is made to collect the data contemplated by the law.

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THE TREATMENT OF HOOKWORM DISEASE RELATIVE TO IMPROVED METHODS.*

By A. G. Fort, Ph.B., M.D., Atlanta, Ga.

In the treatment of hookworm disease thymol has been and is now the anthelmintic in most general use in the United States. This is given according to the doses set forth by Dr. Stiles in from 7½ to 60 grains, preceded by preliminary treatment which varies according to age, physical condition and surroundings of the patient. The thymol is finely powdered and mixed thoroughly with equal parts of sugar of milk and prepared in capsules for administration. Many prefer to administer their thymol in the evening, while other choose the early morning. In the cases which I personally treated prior to 1910, calomel in doses of one to ten grains was administered in the afternoon, epsom salts in the evening and at 5 a. m. the following day half the dose of thymol and at 7 a. m. the remaining half, and at 9 or 10 a. m. some saline. This method of treatment was fairly satisfactory, although the calomel oftentimes nauseated and the thymol occasionally caused depression. During the first eighteen months of dispensary work we gave more than 10,000 treatments, using thymol. During this time no calomel was administered, but the saline was, as described in my personal work.

The reports of the work of Ashford, King and others in the great campaign waged in Porto Rico were furnished to me many years ago and I noted a quotation from Bentley which reads as follows: "By this treatment I have been able to expel in a number of cases from 500 to 1,000 worms" (referring to betanaphthol), so I adopted the use of this drug in private practice and found from clinical reports that it was as efficacious as thymol. Not only is it as efficacious, but the depressing effects were negligible. So we changed in our dispensary campaign from the use of thymol to betanaphthol. The following table given by Dock and Bass in their work on hookworm disease shows the relative value of these two drugs as an anthelmintic:

Percentage of total number of worms expelled:

After 1 dose of thymol.....	76.85
After 1 dose of betanaphthol.....	72.24
After 2 doses of thymol.....	90.17
After 2 doses of betanaphthol.....	88.12
After 3 doses of thymol.....	95.28
After 3 doses of betanaphthol.....	93.67
After 4 doses of thymol.....	96.57
After 4 doses of betanaphthol.....	96.47

We knew that the relative efficiency of these drugs, given as recommended by different men, is practically the same. All references to the use of betanaphthol showed that it was given in half the quantity as was thymol, but in our work we concluded to give it in the same quantity, by weight, as we did of thymol. While we have no definite figures, it is but natural to suppose that if the above table holds true where one-half dose betanaphthol was used, it would be slightly changed in favor of betanaphthol when given in the same quantity as was thymol. Preliminary treatment followed is identical and the precautions are the same for each drug. We found this to be true, that there was less complaint of nausea, vomiting and dizziness on the part of the patient and a larger number returned for second, third and fourth treatments where betanaphthol was used. We have used same more than fifty thousand times and while we have had a few to suffer from slight depression, as yet we have had no fatalities, so taking these things into consideration we believe our method of treatment to be improved by the use of betanaphthol.

I have never used male fern in the treatment of hookworm, but have used it in many instances for the expulsion of hymen, nana and other forms of taenia. One who has ever administered betanaphthol, thymol and male fern will utilize either of the first two in preference to the last.

During the summer of 1913, my attention was called by Dr. Dorsey of the City of Atlanta to the following extract found in the *Journal of the American Medical Association*, page 706, March, 1913: "Oil of Chenopodium in Hookworm Disease. Schuffner and Vevroort state that in their practice in Deli in the last fifteen years, they have found mecinariasis extraordinarily prevalent. In the last eight months they have been giving oil of chenopodium a thorough trial in 1,457 cases, comparing the efficacy with that of thymol, naphthol and other vermifuges. Compared with eucalyptus oil with a coefficient of 38, naphthol of 68, and thymol with 83, oil

*Read at the meeting of Representatives in United States of International Health Commission, Atlanta, Ga., May 18, 1915.

of chenopodium surpassed them all with 91. Another great advantage is that it expels ascarides with the hookworms, thus impressing the minds of the patients much more than when the insignificant hookworms alone are expelled. It is also comparatively pleasant to take." The therapeutics of oil of chenopodium was then investigated and I found that it had been used with success through a long period of time for ascarides and that it is considered practically free from dangerous effects and as ascarides quite frequently occur in connection with hookworm infection. We decided to try it in a few selected cases. Dr. Dorsey also called my attention to the fact that neutral mineral oil is not absorbed in the alimentary tract and suggested that if oil of chenopodium was given with neutral mineral oil we would reach a larger number of parasites than by giving the chenopodium undiluted. We gave it a trial and in February of this year I received a report which was not complete but led me to believe that this drug was worthy of further consideration. This report was from Dr. Wood and read as follows:

"———, Ga., Feb. 23, 1914.

"With reference to my investigations with oil of chenopodium in the treatment of hookworm disease, I wish to first state that the conditions under which these cases were treated were by no means ideal and clinical or the physiological effects upon the patients could not be noted personally, information being secured through attendants upon the cases or the patients themselves. My report is therefore, from necessity, far from perfect and only preliminary. At the —— I found 51 cases. The first half or 25 of these were given 30 m. wormseed with an ounce of liquid aboline in two doses.

"Eat no breakfast.

"At 5 a. m. take half the medicine.

"At 6 a. m. take other half medicine.

"At 7 a. m. take dose salts.

"The —— reported that a few of these were somewhat nauseated and weakened; 19 were re-examined two weeks later, 16 negative and 3 positive. The other 26 were then treated with betanaphthol in the usual doses and salts the afternoon before.

"Eat no supper.

"Eat no breakfast.

"Take half the medicine at 5 a. m.

"Take the other half at 7 a. m.

"Take dose salts at 9 a. m.

"Upon inquiry, I was informed the last

treatment made more of them sick than the first, not nauseated, but sick and dizzy; 18 of these were examined later with only 9 negative and 9 positive. But few parasites were secured from either set, as specimens contained much debris and were poorly cared for. All were given oil of chenopodium the second treatment and nausea was reported in several small boys. At the —— I treated about 20 cases, some with betanaphthol, the others with chenopodium. As much as 50 or 60 min. were given in castor oil with marked depression, nausea and some vomiting. Large doses of alboline were tried, which still produced some vomiting and a feeling of intoxication, then depression. More worms were secured from the wormseed cases than from the betanaphthol cases. Some took both treatments. All of them much preferred the wormseed. The doctor in charge of these patients stated that when small doses were given the latter was far more pleasant to the patients and more effective as a vermifuge.

"With other cases various methods were tried. Some had alboline, some castor oil, some olive oil and some no oil with the chenopodium. All cases treated with castor oil were nauseated and depressed. Some taking olive oil were, and some were not, sick. Only a few taking galboline experienced depression or nausea. Those taking no oil were not sick but treatment apparently not effective. About ten cases whose fourth and fifth treatments were chenopodium reported more parasites than with any other former treatment. It seems, therefore, that 15 to 20 min. doses in alboline is the best method of administration, and is preferable to betanaphthol or thymol because it is safe and effective."

Further report in June, 1914, from Dr. Wood shows oil of chenopodium to produce practically no ill effects. Later we received the following report from still another county in Georgia:

Report on Oil of Wormseed—

		Re-exam.	Cured.
First treatment	146	72	18 or 25%
Second treatment.....	54	40	10 or 25%
Third treatment.....	31	10	8 or 80%

Since studying the use of this drug I find that it is used in Sumatra for hookworm disease. Dr. Wiekcliffe Rose of the International Health Commission writes that the following prescription is used by the physicians in that country:

1. Drug used, oil of chenopodium.
2. Milk diet for one day.
3. Min. 7 at 6 a. m. (oil of chenopodium).
4. Min. 7 at 7 a. m.
5. Min. 7 at 8 a. m.
6. Castor oil at 11 a. m.

Dr. Guthrie of the Johns Hopkins Hospital calls attention to a case which was reported briefly by Dr. Levy, a member of the hospital staff, of a patient who had hookworm disease which was resistant to thymol but which yielded readily to chenopodium. He states that during the past summer, while in Central America, he had opportunity to test the efficacy of the drug. He encountered both the Old and the New World type. The method of administration was as follows:

First day, 5 p. m., Epsom salts, oz. 1. Liquid diet begun.

Second day, 5 p. m., Epsom salts, oz. 1. Liquid diet.

Third day, 6 a. m., oil of chenopodium, min. 16 in capsule; 8 a. m., oil of chenopodium, min. 16 in capsule; 10 a. m., oil of chenopodium, min. 16 in capsule; 12 a. m., castor oil, oz. 1, plus chloroform. Min. 45. Nothing to eat third day until treatment is completed.

He gives his conclusions as follows:

1. The treatment was well borne; no ill effects were noted and no complaints of subjective discomfort were elicited on careful questioning.

2. The treatment was successful in both the Old and New World infections. It sometime had to be repeated, but it practically never failed to eliminate some worms or to reduce the number of eggs in the stool.

3. It succeeded in cases in which thymol had been tried, sometimes repeatedly and had failed.

4. When given in parallel series to patients just as they came, the chenopodium seemed much more efficient than thymol.

5. The drug is also very efficient for ascaris, somewhat less so for whipworm and often clears the stool of strongyloides intestinalis, but I do not believe that in such instances a permanent eradication has been effected.

Inasmuch as the supply of thymol and betanaphthol is now very limited and the price of both drugs quite high, and also in view of the fact that the reports from many show that this drug is efficacious and practically non-toxic, I consider it well worthy of your consideration in connection with the treat-

ment of hookworm disease. That it is slightly toxic is shown by the following. "Hookworm Disease, Use of Chenopodium," by Murrah Galt Motter: "Toxicologically, a search of the Index Catalogue and the Index Medicus revealed by 12 published cases of poisoning by wormseed oil in something over fifty years, the first having been published in 1852 and the last in 1903. Of these cases, eight were fatal. The report of one of the fatal cases is cited by Wood with the added comment: 'It is plain that the wormseed was not the direct immediate cause of all these symptoms or of the fatal result.'

Dr. Charles Stiles has called my attention to the fact that he finds reference to a fatal case in a child 3 years old in a dose of one-half dram of chenopodium. Wilcox in his *Materia Medica of Therapeutics* refers possibly to the same case.

Since the reports of Dr. Wood heretofore quoted the price of neutral mineral oil has advanced until now it is practically prohibited, so during the work in the last four counties we were forced to discontinue its use, but continued to use oil of chenopodium in doses of from 5 to 30 min., administered in the evening, preliminary treatment consisting only in the abstinence from food for supper; the doses are divided in one-half and given one hour apart (total quantity given 5 to 30 min.), followed the next morning by a saline. With this method of treatment we have had practically no alarming symptoms and results have been in keeping, so far as we could judge, with the administration of the drug with liquid aboline. We have followed this plan in three counties with satisfactory results.

Dr. Wood has administered oil of chenopodium exclusively in four counties and has treated 1,646 cases and has given 3,910 treatments to this number with no fatalities and no particularly alarming symptoms. We believe that in this drug we are made independent of chemical products from other countries and are looking forward to the time when in the infected areas of our state that instead of giving spring tonics in the form of some proprietary or patent medicine, the good mothers will find it more beneficial and equally as safe to give a concoction or infusion of the "Old Jerusalem Oak," an ever-present plant in all rural sections of the United States.

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MEDICAL ASSOCIATION OF GEORGIA.

Official Minutes of the Sixty-Sixth Annual Session, Held at Macon, April 21, 22 and 23, 1915.

APRIL 21—FIRST DAY—MORNING SESSION.

The Association met in the Assembly Room of the Hotel Dempsey and was called to order at 10:30 a. m. by the President, Dr. W. B. Hardman, Commerce.

Reverend E. C. Dargan was introduced and delivered the following invocation,

Prayer by Rev. E. C. Dargan.

"Oh, God, our Creator and Sovereign Lord, we thank Thee that every occasion which calls men together may be blest by Thy presence, and that it is fitting to invoke Thy strength and grace upon every effort we can make to help mankind and to glorify God. And so we come this morning, O Lord,

to ask that Thy grace and benediction may rest upon this assembly of thoughtful men who are engaged in the great profession of conserving the health and relieving the distress of human beings. We know, O Lord, that Thou in sending Thy Son into the world to be a great helper, a healer, a physician, encourages us to believe and trust in Thine own desire for the health of humanity.

"We pray that Thou wilt guide and bless the deliberations of this body. We thank Thee that many of those who are seeking to heal the body are also believers in the reality and immortality of the soul. We ask that Thou wilt bless these gentlemen and have a personal touch with God through Jesus Christ and in their work among the needy may they rely upon the wisdom of Almighty God. May Thy grace rest with every member of the Association and others who combine to do good to man. May Thy glory be advanced and human health and spiritual life be helped by their deliberations and labor. We ask all these things for Jesus' sake. Amen."

THE PRESIDENT: For some reason the Committee on Entertainment have thought it wise to vary the program a little bit. It has usually been customary in all our annual meetings to have an address of welcome from some of the city authorities, either the mayor or some representative of the city council. I suppose out of some tender feeling for them the local Committee of Arrangements have excused them, or probably there are things in Macon that they would not welcome us to. However, this is abundantly compensated for by the address we are to have from one of our pioneer workers in the Association—the man who is to deliver the address of welcome in behalf of the Bibb County Medical Society. I think I am correct in stating that Dr. K. P. Moore, of this city, endorsed my application for membership in this association many, many years ago. I speak of this not because it is a great honor to him, but to express my regret to him and to show you how risky it is sometimes to sign your name to another man's paper. (Laughter.) However, nothing can give me more pleasure, I am sure, than to present to this Association a man who has worked in your ranks for years and years and who has been your honored president. I introduce to you Dr. K. P. Moore, of Macon, whom you all know. (Applause.)

Address of Welcome by Dr. Moore.

Dr. Moore said Mr. President and Members of the Medical Association of Georgia: It gives me a peculiar personal pleasure to extend to the Medical Association of Georgia a welcome to our city.

I have a rather unique record in the Association, so far as I know. I attended, I think, twenty-five successive sessions of this Association. There may be others who have done equally as well, but of that I do not know. However, I know that I have that record of being that faithful, loving and loyal to the Association. For that service I have been rewarded with every office within the gift of the Association.

Years ago we used to have what we called the annual oration, and when I was quite a lad in the profession my distinguished and honored friend, Dr. W. F. Westmoreland, Senior, who was then President, selected me to deliver the annual oration of the Association. A little while after that I was made first vice-president when our distinguished member Dr. Battey was President of the Association. For years I was Secretary of the Association. We did not have a stenographer at that time. I had to do all the work: take the minutes, write them up at night and have them ready by the next morning. After this I was made Treasurer of the Association, and then a censor, and finally the Association honored me with the Presidency.

I was looking over the list yesterday of the dates of membership in our Association, and I find that I stand alone today as the only surviving member when I joined it. I joined the Association in 1871, and as I looked over the membership yesterday I found I was really the last one who had joined the association up to that time. Only three remain who joined the Association the next succeeding year. My distinguished friends, Dr. James B. Baird, Dr. J. S. Todd, of Atlanta, and Dr. J. B. S. Holmes, of Florida, are the only three left who joined the Association in 1872.

I mention these facts to show it is with peculiar personal pleasure that I have the honor of welcoming you to the city of Macon.

It is a pleasure to us to welcome the Association to Macon for the reason the Association was born here, and we welcome you in holding the sixty-sixth anniversary in the home of the Association's birth.

The Association was organized in 1849, with thirty-four members. It might be interesting to review in a brief way some of the names that appear on the roll of membership of that immortal thirty-four. We have Dr. J. F. Alexander, of Atlanta, a man of strong mental capacity. We have from Savannah, R. D. Arnold, J. M. Gordon, Thomas Stewartson; Dr. Arnold, I remember, when I first joined the Association, was president of the Association. Then from Augusta we had Robert Campbell and L. D. Ford. These names are associated with Augusta's history, and I believe were among the founders of the great medical institution now in Augusta. Dr. L. D. Ford, I am sure, was the father of our distinguished Dr. de Sanssne Ford. Dr. George F. Cooper, of Americus, was a man of fine character. He was not only a good physician, but a great Baptist preacher, and we remember him kindly. Dr. S. D. Brantley, of Sanhersville, was president of the Association when it met in this city seven years ago, and sat upon the stage as the last surviving member of the group of thirty-four. Thomas F. Green, long associated with the State Sanatorium, became a member of the State Association. At Forsyth we had W. B. Stephens and R. L. Roddey. At Bolingbroke we had G. A. Winn and D. B. Searcy. D. B. Searcy was my predecessor and started me on the road of a doctor's life. Then we had in Macon Thomas R. Lamar, Charles Thompson, J. B. Wiley, H. K. Green, R. McGobrick, W. S. Lightfoot, W. A. Franklin and C. B. Nottingham. Then comes Dr. Joseph LeConte. We know him as a famous geologist. He occupied the Chair of Geology in the great University of California for a number of years. At one time he was professor of geology in the State University before he went to California. He was a man who took a deep interest in the science of geology. Dr. LeConte's works on geology were standard in their day and I suppose today they are considered authority.

Then we have Crawford W. Long. (Applause.) I am going to ask your indulgence for a moment to say a few things in reference to Dr. Long, and I am prompted somewhat to do so by an item I read in The Evening News yesterday evening. After I read this I decided I would write down a few sentences which I want to say about him. The Evening News says that one of the Chautauqua lecturers delivered a lecture at Way-

cross in which he gave credit for the discovery of anesthesia to one Dr. Morton, a dentist, in Boston. The doctors of Ware County were heard from after that lecture and they passed a resolution suggesting that the Chautauqua organization, when they selected men to go on the platform, should select some one who knew what he was talking about.

The mere mention of the name of Crawford W. Long should bring a thrill of pride to the heart of every Georgian, and dead, indeed, must be any Georgia doctor who does not grow enthusiastic and whose heart does not swell with pride when the name of this great man comes into review.

The use of ether anesthesia has come to be so commonplace, we do not stop to appreciate how it has widened and broadened the domain of surgery, making possible the performance of so many difficult and complicated operations which could not possibly be done without it.

The suggestion that painless surgery could be done under ether anesthesia did not, like so many new things in the world's history, accidentally dawn upon the mind of this great man. At his office in his little country village, when he was yet quite a young doctor, there would occasionally meet a few of his friends and companions, and to add to the hilarity of the occasion, would inhale nitrous oxid gas, long known among the laity as laughing gas. This they found a little too expensive, and Dr. Long suggested that they could probably get the same effects from the fumes of sulphuric ether. And while they thus added to their evening's amusements, Dr. Long noticed that, while thus intoxicated, they would frequently have pretty bad falls, and possibly sustain considerable bruises and contusions, and never complain of any associated pain. A less fertile brain would have passed these slight occurrences without profit; but Dr. Long's shrewd, thoughtful, scientific mind did not fail to catch the suggestion, and there was sown in his fertile brain the seed that should bring fruitage in untold blessings to the human. If cuts, contusions and bruises were painless while under ether, why could not surgery also be made painless? Can we imagine the joy of a new-born hope that sprang up in the mind of this young doctor, as the dawn of a new day in surgery began to break upon his vision, and the delivery from the darkness of a long night of untold misery,

pain and death began to be driven from the face of the earth's history; and today as we look back over the years, how splendidly has that timid star of hope become the magnificent sun of fulfilled prophecy and glory, driving out of every operating room the intense darkness of dread and horror, pierced by the pitiless screams, groans, of the helpless sufferers; and flooded the place with a glorious halo of peace and tranquility. While the patient goes through the operation on flowery beds of ease, and the brave surgeon, undisturbed by the screams or contortions of his patient, with a calm brain and a steady head, guides his cruel knife through the quivering flesh. What a glorious breaking of the day on this thoughtful young surgeon, and how splendid and magnificent as we stand in the zenith of its noontide.

We speak boastfully of the marvelous achievements of modern surgery, and we very properly place the chaplet of glory on the head of the man who handles the knife, but let us not forget to place a wreath of honor and praise upon the memory of the man who was first to discover the possible means of placing such brilliant results within easy reach.

Of course, I would not be misunderstood as saying that anesthesia in some other, and I might say more dangerous, form had not been in use before Dr. Long used sulphuric ether, and I am not unmindful of the fact that in 1844, some two and a half years after Dr. Long's first operation, and before his discovery became known to the medical world, ether did come into use as an anesthetic, but this does not take the glory which attaches to this splendid young Georgia doctor, in his country home, five hundred miles from the nearest hospital, and probably more than one hundred miles from the nearest railroad, buried away in his country home among the red hills of Georgia, isolated and alone, he took the initiative on his own judgment, and did the first operation in the world under ether anesthesia. Dr. L. B. Hardman, brother of our distinguished President, honored himself when he honored Dr. Long, and erected that splendid monument that tells future generations of the achievements of this Georgia doctor, one of the honor roll of the original Medical Association of Georgia. Long did his first operation March 30, 1842. Wells established sleep under nitrous oxid gas in 1844. About two years after Dr. Long's first operation Morton extracted his

first teeth under ether anesthesia September 30, 1846, nearly four and a half years after Long's first operation under ether anesthesia.

For the benefit of the younger members of the profession, and in view of the fact that this Chautauqua lecturer announced that Morton was the first to use ether anesthesia, I thought it might be well to spend a few minutes, as I have done, to make green the memory of this distinguished Georgian of whom we all feel proud. (Loud applause.)

The first railroad ever run in Georgia started from Macon. The road ran from here to Forsyth, and left here on December 10, 1838. There was a railroad coming from South Carolina, but as a matter of historical fact the first railroad ever run in Georgia went out of Macon. I suppose in 1849 the doctors from Augusta and Savannah were able to come to Macon by rail; but Dr. Long had to come about a hundred miles by private conveyance to get to a railroad, and the doctors from Americus and Columbus must have come by private conveyance or by stage coach, this being the means of transportation at that time. This train running from Macon to Forsyth finally went on to Atlanta. It was considered a long train in those days. It had one passenger coach and a baggage car. The farmers complained that it was dangerous to run such a long train, and to go at such a rapid rate. They said it was dangerous for man and beast. (Laughter.)

On the part of the profession I welcome you to the best city in Georgia. From my viewpoint it is the best city in the world. (Applause.) We may not have as many skyscrapers or capitol buildings, or great medical schools, as Atlanta. We have no raging canal, with its long string of manufacturing enterprises; nor any medical department of the State University, as Augusta. We have no musical murmur of the unceasing rolling tides, or ozone-laden sea breezes, or great ports of entry, as have Savannah and Brunswick. Probably we have not as much of the low music of spindles or throbbing of looms as Columbus. We have no mountains standing about us, great silent monuments of grandeur, strength and beauty as Rome or Gainesville. But when Macon is asked for her jewels, we point with pride to our health record; to our broad, beautiful clean streets; to our splendid schools and colleges; to our bright, intellectual and beautiful women; to our splendid corps of strong young doctors.

For real youth and beauty, Drs. McHatton. Shorter and myself stand at the head of the profession. (Laughter.)

We are proud of the fact that Macon stands forth at the head of the list of any of its proportions in the United States, and I am glad to say Macon stands at the head of the list as the healthiest city in proportion to population of any city in Georgia. (Applause.) We have the purest water, and the purest milk of any city in Georgia. We have less contagious and infectious diseases.

We have some of the oldest institutions in Georgia. Mercer University was organized in 1832. It is one of the oldest southern institutions, time-honored, and has given to Georgia as many or more governors and other distinguished statesmen and men of high rank than any like institution anywhere; while Wesleyan, the oldest chartered female college in the world, has turned out more beautiful women, blessed and brightened more homes and probably broken more men's hearts than any like institution in Georgia.

We are not perfect. We do not claim perfection. We certainly are at peace, so far as I know. So far as I know, there is no friction among the doctors of Macon. We all love each other—at least, I love them all, and I have reason to believe they all love me. We live in peace and harmony. When you stop to think of Macon's healthfulness, all we can do is to live in harmony and peace. (Laughter.) We are not perfect, as I have said. We have our failures. We make our mistakes, as they do everywhere else.

I am told that our distinguished friend, Dr. Ross, in writing a prescription for a box of capsules, wrote on the directions, "Shake well and take one every two or three hours." (Laughter.)

Thirty-odd years ago, when I came to Macon to practice medicine, my friend, Dr. McHatton, came here at the same time. We had a great race for practice. We happened to have had patients in adjoining lots, and so in going the rounds one day I saw a man making a coffin, and I said to him, "What are you doing?" and he replied, "I am making a coffin." I remarked, "Is one of Dr. McHatton's patients dead?" "No," he replied, "he is not dead, but the doctor said he would die, and I reckon he knows what he is giving." (Roars of laughter.)

Even Dr. Little does not escape failures. Some time ago one of his patients died al-

though given every consideration and care. Dr. Little's patient was like Asa, who turned not to the Lord, but to the physician, and Asa died, and so did Dr. Little's patient die. After a while the doctor rendered his bill to the administrator of the estate, and Dr. Little asked the administrator if it was necessary to swear to the bill. "Oh, no," replied the administrator, "the mere fact that you attended him is sufficient evidence." (Roars of laughter.)

Here is a story about my friend, Dr. Williams who has a splendid hospital a beautiful institution and who is doing wonderful surgical work in it. Dr. Williams is a great surgeon. He had a patient on whom he performed a serious operation and was very anxious about the result and, about the time the patient was coming out from under the influence of the anesthetic, Dr. Williams went into the room and asked the man how he was feeling. The patient replied, "Oh, doctor, I am just at death's door." Dr. Williams said, "Don't be uneasy, I'll pull you through." (Laughter.)

I have another story to relate to you about one of our young benedicts who has recently found a new hope and joy. I will not mention any names. He had a patient who was complaining terribly of facial neuralgia. The patient had already told him that other doctors whom he had consulted did him no good. But the young doctor said, "Your case is easy enough cured. I had the same trouble yesterday, and I went home and my beautiful young wife kissed it all away, and I would advise you to try it. When can I see your wife?" (Roars of laughter.)

I suppose if our distinguished Mayor were here, he would turn over to you the keys of the city. I happened to be in his office a short time ago and saw keys hanging up that looked like pure gold which he uses on occasions like this. But as representative of the Bibb County Medical Society, in giving you a welcome to our city, I say we will not turn over the keys of the city to you, but we will take the doors off their hinges so that you can walk right in. Again, I heartily welcome you to the city of Macon. (Loud applause.)

THE PRESIDENT: I am sure, the Association has enjoyed Dr. Moore's reminiscent talk. He has taught us something about the organization of the Association, and he has delivered to us a ringing good speech. The doctor has shown us that there is ginger in

him even yet, and we certainly greatly appreciate his address.

I am not in a humor this morning to speak about ripe old age. As I came down on the train to come to this meeting, a lady sitting opposite me said: "Are you Dr. Hardman?" I replied, "I am one of the Doctors Hardman." She said, "I thought you were. Are you Dr. L. G. Hardman?" I replied, "I am not." "Are you older or younger than L. G. Hardman?" I replied, "I am a great deal younger than L. G. Hardman; to be exact, he is nine years older than I am." "Is that so," she said, "you look a great deal older." (Laughter.) So that remark does not put me in a good humor to speak of ripe old age or ripe age; but it is certainly a pleasure to see a man who grows old or older than he once was gracefully.

The man who is to respond to this address of welcome in behalf of the Medical Association of Georgia is a man who has gradually ripened as gracefully and as sweetly as any man in Georgia. I really think his name is a grammatical error. I never could say Thomas R. Wright, but it seems to me that Thomas is right. However, this being the only fault I know or ever heard of, it certainly should be an honor to this Association to have him respond to the address of welcome, and I present to you Dr. Thomas R. Wright, of Augusta. (Applause.)

Response to the Address of Welcome.

DR. WRIGHT: Mr. President, Ladies and Fellow Members of the Medical Association of Georgia: Before going any further in what I may have to say, I want to congratulate our young friend, Dr. Moore, because I am always glad to see a man who may be seventy years young. We hope to get there sooner or later. (Laughter.)

I want to say another thing, and that is, we congratulate ourselves in Augusta that we have but one man in the profession who is over sixty, and he, I am sorry to say, is not in active practice.

Our good friend, Dr. Moore, has actually stolen my thunder. Dr. Pilcher, of Warrenton said to me this morning, "I expect we will have to call you sooner or later Old Reminiscent." Well, if that is to be my name, it is all right, but when I was notified, and it was expected of me to say something in response to Dr. Moore's address, I wrote him and asked him along what line he was going to talk. His reply was, "Doctor, you

catch it in two words, the greatest city in Georgia."

We all certainly appreciate the heart welcome Dr. Moore has extended to us, as members of the Medical Association of Georgia. We appreciate it. As a matter of fact, the doctor is probably the least appreciated man in the world. How many times have you ever seen a doctor's name emblazoned on a monument erected possibly to some good work? As Weir Mitchell has said in his article of last year, "President, statesman, orator, stand immortalized by monuments, but not the doctor," a truth from which the general public cannot shrink. Yet we are always welcome. Who is more welcome than the doctor when he enters the sick room? His presence may be anxiously awaited for hours, in order that he may come and restore the health of the one who is sick. Again, who carries confidence—yes, the confidence of the world? I do not suppose there is one of you but has been told things which, under no circumstances, would have been told to any one else. The secrets of the person telling you are equally sacred to you. When a tyro in medicine, walking into the library of the old Medical School of Georgia, I saw two venerable practitioners of medicine seated at a table. One of them was Louis D. Ford. As I entered the door they were engaged in earnest conversation. I said, "Gentlemen, will you excuse me; I merely want to get a book and to go out." "No, no," they replied. Those of you who knew the senior Doctor Louis D. Ford knew the absolute quietness with which he walked up and down that room. He stopped for a moment and said to his nearest old friend, calling him Joe, "If you and I told the secrets that we know have been confided to us in the city of Augusta, we would play the devil with the town." Genuine man as he was, motherly old man as he was, quietly putting his hand upon Dr. Ford's shoulder. Joe said, "But my friend, we will never do it." There now stands expressed in that one scene what is confided to a doctor, I don't care where he is.

Dr. Moore has alluded to the Central City, the greatest city in Georgia. This beautiful city of Macon has been named after a distinguished senator of North Carolina, Nathaniel Macon.

We are glad to come to this city. We are glad to see you. We are glad you are the central city because radiating from it are innumerable railroads which are to your ad-

vantage and of untold advantage to you in a commercial way if rightly used. If I am correct in my memory, there was great rejoicing in this town in 1822, when a steamboat brought two barges laden with freight, and the record says there was great rejoicing by the public and press. I don't doubt it. In that day it took eight days to go from Darien to Macon.

Now, gentlemen, at the risk of going over and repeating some of the points Dr. Moore has made, I am going to say one or two things here and if I bore you, pardon me. Do not keep watch of my manuscript, and that reminds me of something that happened in my town. A good member of the Methodist church had been asked to make a speech and he had written it out. He laid it down on the table, started to talk, and by the time he read the first two pages a gust of wind came through the window and the sheets of manuscript were scattered all over the floor. He sat down. (Laughter.) I don't want to sit down yet. (Laughter.)

Here is the origin of the Medical Association of Georgia taken from the records. (Reading from manuscript.)

As Dr. Moore has just said, there were present at that meeting, and there were present, also, as members of the Medical Association of Georgia, men whose names have gone down in the history of medicine, while not emblazoned upon any tablet, whether it be of bronze or marble, but emblazoned in medical ethics and medical writings. Richard D. Arnold, of Savannah, was the first secretary of the American Medical Association, and on that committee that drafted the code of ethics, which was only equaled by the Constitution of the United States written by Thomas Jefferson. (Applause.) Then, again, was another gentleman from Savannah a man who established what is known to you as Buck's extension for fractures of the thigh. It does not belong to Dr. Buck, of Baltimore; it belongs to a gentleman of Savannah, whose name has slipped me, but he was the man who first thought out the treatment of the thigh by extension. There was also here a gentleman alluded to by Dr. Moore, Dr. Green, who, under the inspiration of some one from the North, a philanthropist, established the Georgia State Sanatorium. There were still others. There was another—yea, many of them. There was Alexander Dugas, a man who gave to the medical and surgical world that infallible sign of disloca-

tion of the shoulder joint. But still more in April, 1852, he laid down the principle underlying penetrating wounds of the abdomen, and not only did he demonstrate it at that time, but he laid down principles which you will find in every surgical book today.

Dr. Moore has called our attention to Dr. Long, that wonderful man from Danielsville, Madison County, Georgia. When we remember what he did, we can have nothing but admiration for him. Dr. Long, as many other doctors do, did not realize at the moment the enormous importance of what he had found. He did not realize at the moment his discovery would enable surgeons of the world to operate freely without pain upon patients. If any of you have had described to you the operations that were done prior to anesthesia, you know what it means, not only to the doctor operating, but to his unfortunate patient. One of the most painful tributes I ever listened to was that given by Dr. Garcelon, of Maine, distinguished governor of Maine, who described on one occasion his experience in operating without anesthesia. I have heard others do the same, and I thank God that I live in the day when surgical work can be done without the screams and groans of patients, and when it is unnecessary to hold them down that they may be relieved of their trouble.

Gentlemen, there is a stimulus behind what these men have done, a stimulus that ought to animate every one of us to go ahead and see what we may do. There is no reason why other things may not come from the members of the Medical Association of Georgia. Now, let me say this: If this great state of ours, the Empire State of the South, and thank God I was born within its realms, if the profession of Georgia had done nothing more than that which was accomplished by Dugas, of Augusta, and by Long, the discoverer of anesthesia by sulphuric ether, the medical men of the State of Georgia have done as much or more than any other state in this great nation of ours. What would have occurred if Long had not discovered the use of anesthesia by sulphuric ether? Some one else would have found out what he did, but to a Georgia doctor belongs some of the most wonderful pieces of work which have ever been done by the medical profession.

Gentlemen in your behalf, and in behalf of the profession of Georgia, we thank our brethren here, and Dr. Moore as mouthpiece, for his cordial invitation to make ourselves

at home in this central city, the best city in Augusta. (Loud applause.)

THE PRESIDENT: It should be an inspiration to those of us who are younger men to push forward and leave other records that will be lasting.

I think at this stage as we have heard from Dr. Moore and Dr. Wright, it would be only fitting that we pay a tribute to the memory of our first Vice-President who died since our last meeting by rising in a body for a minute, thus paying tribute to his memory. I refer to Dr. C. L. Williams, of Columbus.

The Secretary read the minutes of the first meeting of the House of Delegates.

Dr. T. J. McArthur moved that they be adopted as read.

Motion seconded and carried.

The reading of papers was then proceeded with.

Dr. Cheston King, Atlanta, read a paper entitled "The Psychoses of Morphin and Alcohol; Was the Medical Profession Prepared for the Harrison Law?"

Dr. Theodore Toepel, Atlanta, followed with a paper entitled "The Influence of School Life on the Physical Child," which was discussed by Dr. Barge, and discussion closed by the author of the paper.

Dr. L. C. Allen, Hoschton, read a paper entitled "The Need of Better Rural Sanitation."

This paper was discussed by Drs. McArthur, Fort, Toepel, and the discussion closed by the essayist.

On motion, the Association adjourned until 2:30 p. m.

First Day—Afternoon Session.

The Association reassembled at 2:30 p. m., and was called to order by the President.

Dr. L. M. Gaines, Atlanta, read a paper entitled "Observations of Syphilitic Disease of the Nervous System."

Dr. J. T. Stukes, Americus, read a paper entitled "Intravenous Injection of Bichloride of Mercury in the Treatment of Syphilis."

Dr. A. H. Bunce, Atlanta, read a paper on the "Diagnosis of Syphilis and Para-Syphilis from the Standpoint of the Laboratory."

Dr. L. C. Fischer, Atlanta, followed with a paper on "Syphilis of the Stomach."

Dr. E. P. Merrit and Dr. C. C. Aven, Atlanta, contributed a joint paper entitled "Venarsen."

These five papers were discussed together by Drs. Stukes, Ridley, Ballener, Hull, Champion, Gould, Emory, Bunce, McCurry, Dalton, Barge, and discussion closed by Drs. Gaines, Bunce, Fischer and Merrit.

Dr. W. L. Champion, Atlanta, read a paper entitled "Gonococemia."

Dr. J. E. Blackshear, Macon, read a paper entitled "Report of Two Genito-Urinary Cases."

The paper of Dr. Blackshear was discussed by Dr. Champion and in closing by the essayist.

Dr. A. L. Fowler, Atlanta, read a paper entitled "The Small Fibrous Prostate."

Dr. E. G. Ballenger and Dr. Omar Elder, Atlanta, contributed a joint paper entitled "An Improved Method of Draining the Bladder After Prostatectomy."

Dr. M. L. Boyd, Atlanta, read a paper entitled "Papilloma of the Bladder, With Report of Two Cases."

These three papers were discussed jointly by Drs. Champion, Boyd, Fowler, Emory, and discussion closed by Dr. Boyd.

On motion, the Association adjourned until 8:30 p. m.

First Day—Evening Session.

The Association reassembled at 8:30 p. m., and was called to order by the President.

Dr. George M. Niles, Atlanta, gave a talk on "Interpretation of Roentgenograms in Certain Gastrointestinal Conditions," which was illustrated by stereopticon slides.

Dr. E. G. Jones, Atlanta, gave a lantern slide demonstration on "Goiter."

These two papers were discussed by Drs. Harrold, Jones, Rogers, Allen, Craig, and discussion closed by Dr. Niles.

Dr. E. C. Davis, Atlanta, read a paper entitled "Report of Tumor Formation of Unusual Interest," which was illustrated by slides.

Dr. M. B. Hutehins, Atlanta, followed with a paper entitled "Principles and Practice in the Treatment of Cancer."

Discussed by Drs. Niles, Derr, Bunce, Palmer, and discussion closed by Dr. Hutehins.

Dr. G. Y. Massenburg, Macon, read a paper entitled "Spinal Anesthesia in Surgery, With Report of 927 Cases."

Dr. Hugh N. Page, Augusta, read a paper entitled "Blood Vessel Surgery."

On motion, the Association adjourned until 9:00 a. m., Thursday.

April 22—Second Day—Morning Session.

The Association met at 9:00 a. m., and was called to order by the President.

Dr. Arch Elkin, Atlanta, read a paper entitled "The Uncertainty of X-Ray Shadows of the Lungs in Tuberculosis," which was discussed by Drs. Harris, Thrash, Derr, McHatton, Niles, and discussion closed by the author of the paper.

Dr. C. W. Gould, Atlanta, followed with a paper entitled "The Doctor as First Aid in the Detection of Crime."

The paper was discussed by Dr. Bunce, and in closing by the essayist.

Dr. J. R. Robins, Siloam, read a paper on "The Country Doctor."

Dr. A. G. Fort, Atlanta, read a paper entitled "Final Report of Work Leading to the Eradication of Hookworm in Georgia."

This paper was discussed by Drs. New, Murphey, Pileher, Allen, McArthur, Cox, Little, Stovall, and the discussion closed by the author of the paper.

Dr. A. D. Little, Thomasville, read a paper on "The Commercialism of Pharmacy and the Reason."

Dr. Stewart J. Roberts, Atlanta, read a paper entitled "The Tonsils and the Rheumatic Group."

In connection with the paper of Dr. Fort, Dr. W. W. Pileher moved that the Association go on record as commending and congratulating Dr. Fort and his co-workers on the magnificent work they have done not only in eliminating hookworm in Georgia, but the educational work they have done otherwise and that the Secretary convey thanks to the Rockefeller Commission, which made this work possible. Seconded.

Dr. T. J. McArthur moved as a substitute that the President appoint a committee of three, with Dr. Pileher as Chairman, to draft this resolution, and that the resolution be conveyed to the Rockefeller Commission and given to the lay press for publication.

The substitute was accepted, seconded and carried.

The President stated that he would announce the committee later in the session.

The paper of Dr. Roberts was then discussed by Drs. Murphey, Cox, Harrold, Lapat, Dawson, Hardman and the discussion closed by the essayist.

Dr. Thomas D. Coleman, Augusta, read a paper entitled "Treatment of Bright's Disease With Cardiac Insufficiency," which was

discussed by Drs. Hartley, Thrash, Allen, Harris, Roberts, Kenyon, and in closing by the essayist.

Dr. W. F. Shallenberger, Atlanta, read a paper entitled "Some of the bases of Nephroptosis in Women," which was discussed by Drs. Branch, Rogers, and in closing by the essayist.

On motion, the Association adjourned until 2:30 p. m.

Second Day—Afternoon Session.

The Association reassembled at 2:30 p. m., and was called to order by the President.

Dr. C. C. Harrold, Macon, read a paper entitled "A Few Fracture Cases," and exhibited patients.

Dr. H. F. Harris, Atlanta, read a paper entitled "Pellagrous Acidosis," which was discussed by Drs. Niles, Dawson, and in closing by the essayist.

The President announced as the committee to draw up a resolution in appreciation of the work of the State Board of Health and of the Rockefeller Commission Drs. W. W. Pilcher, L. C. Allen and R. H. Stovall.

Dr. J. H. Honan, of Augusta, read a paper entitled "Clinical Observation on Blood Pressure."

Discussed by Dr. Harris, and in closing by the author of the paper.

Dr. Willis F. Westmoreland, Atlanta, read a paper entitled "The Causes, Correction and Prevention of Abdominal Adhesions."

Dr. J. W. Palmer, Ailey, read a paper entitled "The Necessity of a State Prosecutor to Enforce State Medical Laws."

Discussed by Drs. Allen, Callahan, White, McCurry, Nolan, New, and discussion closed by the essayists.

Dr. L. C. Allen moved that the future committee on Public Policy and Legislation be instructed to confer with a similar committee from the State Dental Association to take up the matter of having a medical prosecutor, or inspector, and thrash out the question of what can be done.

Seconded and carried.

Dr. A. B. Mason, Waycross, read a paper entitled "Legislation for the Prevention of Ophthalmia Neonatorum."

Dr. Newton Craig, Atlanta, read a paper on "Some Points in the Technic of Submucous Resection of the Nasal Septum."

Discussed by Drs. Barge, Lapat, Maxwell, and in closing by the essayist.

The Secretary asked permission, which

was granted, to telegraph Dr. H. H. Martin, ex-president of the Association, in the name of the Medical Association of Georgia, regretting his inability to be present and extending sympathy to him on account of an accident he had sustained, with hopes of speedy recovery.

Dr. R. P. Cox, Rome, read a paper entitled "Why Are the Refraction of Eyes and the Prescribing of Lenses a Medical Problem?"

Discussed by Drs. Craig, Allen, Mason, Franklin, Hiers, and discussion closed by the author of the paper.

Dr. W. Lapat, Savannah, read a paper entitled "A Modification of the Sluder Method of Tonsil Enucleation."

Dr. Baxter Moore, Atlanta, followed with a paper on "Failure to Recognize Normal Variations in Abdominal Viscera, the Cause of Bad Results in Abdominal Surgery."

On motion, the Association adjourned until 9:00 a. m., Friday.

April 23—Third Day—Morning Session.

The Association met at 9:20 a. m., and was called to order by the President.

The Secretary read the minutes of the House of Delegates. (For particulars see minutes of the House of Delegates.)

Dr. Branch offered the following amendment to the Constitution:

"The officers of the Association shall be elected at the session by ballot; that nominations shall be made at 3 o'clock on the third day of the annual session. If there is no election on the first ballot, the three highest names shall be voted on, other names being dropped. If there is no election a second ballot shall be taken, and the two names receiving the highest number of ballots shall go on until an election occurs."

The Secretary read the following resolution with regard to the State Board of Health and Rockefeller Commission, which was prepared by the Committee having this matter in charge:

Dr. M. A. Clark moved that the resolution be adopted.

Seconded and carried.

The President stated that, in ruling not to allow Dr. Branch to take up the motion laid on the table at the Savannah meeting, the Constitution distinctly says that in such cases a motion shall be taken from the table at the next annual session, and this was not the next annual session. He said the Chair had been criticized for this ruling, but it

was made in accordance with the Constitution.

Dr. Clark then moved that the report of the House of Delegates be adopted.

Seconded and carried.

Dr. Pilcher Moved that the Medical Association of Georgia send its delegates to the American Medical Association instructed. He stated that the action of the House of Delegates last evening on an amendment to the Constitution of the American Medical Association, giving the Judicial Council of the A. M. A. appellate jurisdiction in matters of controversy which concerned component societies, should be explained by Dr. Davis or by Dr. Lyle, delegates to the American Medical Association, and also whether the delegates should be instructed to vote against this proposed amendment.

Motion seconded.

The President stated that delegates had not been instructed on this matter or in other matters heretofore that came before the House of Delegates of the American Medical Association; that the Medical Association of Georgia by its vote would simply endorse a change in the Constitution which binds it as an association to the agreement.

Dr. F. W. McRae said it seemed to him that the action of the House of Delegates should leave the delegates that go to the American Medical Association free and untrammelled to vote as they saw fit.

Dr. Pilcher said this matter was threshed out at a meeting of the House of Delegates, held last evening. It involved a change in the Constitution, as he understood it. A motion was made to instruct delegates to vote against the proposed change. If he understood the matter rightly, it meant that if any action was taken by a county medical society, and certain parties were dissatisfied with it, they could appeal as a last resort to the Judicial Council of the American Medical Association. He was opposed to that. He thought the delegates to the American Medical Association ought to go to that meeting instructed.

Dr. Allen moved that the motion of Dr. Pilcher be laid upon the table.

Seconded and carried.

The President stated that two of the reports read this morning by the secretary were not approved by the House of Delegates. They were recommended by the House to be reported to the general body today.

Accordingly it was moved and seconded that these reports, which had been read by the Secretary this morning, and which did not come before the House of Delegates last evening for action be now adopted. Carried.

The Secretary moved that the Committee consisting of Drs. Pilcher, Allen and Stovall be granted further time to draft suitable resolutions on the death of Dr. Williams, of Columbus, and submit them to the Secretary later for publication in The Journal.

Seconded and carried.

Dr. H. Michel, Augusta, read a paper entitled "Surgical Treatment of Poliomyelitis."

Discussed by Drs. Harrold, Norton, McRae, and in closing by the essayist.

Dr. E. C. Thrash, of Atlanta, read a paper entitled "Injection of Alcohol into the the Superior Laryngeal Nerve for Painful Tubercular Laryngitis."

This paper was discussed by Drs. Elkin, Bunce and in closing by the essayist.

Dr. W. W. Battey, Augusta, read a paper on "Intussusception; Report of a Case."

Dr. W. S. Goldsmith, Atlanta, read a paper entitled "Autoenous Bone Grafts in Non-Union and Malposition in Fractures of Long Bones."

Discussed by Dr. Harrold, and in closing by the essayist.

Dr. Walter Norton, Savannah, read a paper on "Tuffier's Ovarian Graft."

Discussed by Drs. Branch McRae, Block, Battey and in closing by the author of the paper.

Dr. Henry R. Slack, LaGrange, read a paper on "New Treatment of Burns With Report of Cases."

Discussed by Dr. White, and in closing by the author of the paper.

Dr. E. Bates Block, Atlanta, read a paper entitled "The Relation of the Mammary Glands to Menstruation."

Discussed by Drs. Shallenberger, Barge, Branch, and in closing by the author of the paper.

Dr. Pickert, of Mercer University, was accorded the privileges of the floor and said this university gave the same correlated preliminary course of two years study to students as did other universities preparatory to their entrance upon the study of medicine and that the graduate work was recognized by the Hopkins, Columbia, Michigan, etc. Mercer University was doing the same work as the Georgia, Vanderbilt and Vir-

ginia Universities as well as other notable southern institutions. He mentioned this to the physicians of the state so that students could take their preliminary course in Georgia without going to institutions outside the state.

The President, Dr. W. B. Hardman, Commerce delivered his address. He selected for his subject "The Doctor Yesterday, To-day and To-morrow."

At the conclusion of the address, Dr. Stewart J. Roberts moved that the address be given to The Macon Telegraph, with the request that it be published in that paper as well as in the State Journal. He said the public press of Georgia needed the information contained in this address. The people needed it.

This motion was seconded by several and unanimously carried.

President Hardman thanked the Association for this unexpected honor.

On motion, the Association adjourned until 3:00 p. m.

Third Day—Afternoon Session.

The Association reassembled at 3:00 p. m., and was called to order by the President.

The election of officers was proceeded with. The President appointed Drs. Davis, Clark, McArthur and Pilcher to act as tellers.

The balloting resulted in the election of the following officers: President, Dr. W. S. Goldsmith, Atlanta; First Vice-President, O. H. Weaver, Macon; Second Vice-President, Dr. George B. Smith, Rome; Secretary-Treasurer, Dr. William C. Lyle, Augusta; Delegates to the American Medical Association, Dr. M. A. Clark and Dr. C. C. Harrold, Macon; alternates, Dr. W. W. Pilcher, Warrenton, and Dr. T. J. McArthur, Cordele.

The President appointed Drs. McKinney and F. W. McRae to escort the newly-elected president, Dr. Goldsmith, to the platform.

Dr. Hardman, in introducing his successor, said: "It gives me very great pleasure to present to you as your next president the best-looking man in the Association, Dr. Goldsmith. (Applause.)"

Dr. Goldsmith, in accepting the Presidency, said: "Gentlemen of the Association: To be chosen as the sixty-seventh President of the Medical Association of Georgia is an honor worthy of the ambition of any man, and I assure you of my deep appreciation of

your confidence. I can only promise you one thing and that is, my fidelity to the uplift and up-building of this Association and of every regular physician in Georgia. (Applause.)"

"In conclusion, I desire to say, I do not know whether it is due to any unusual personal popularity that I was not opposed by any other gentleman, or whether we have reached the millennium in politics. I trust it is both. (Laughter.) I thank you." (Applause.)

DR. PILCHER: According to agreement, the representatives in the different congress districts have settled on the councillors they want, and I move that the Secretary cast the ballot of the Association for these gentlemen making them councillors.

Motion seconded and carried.

The Secretary cast the ballot as instructed, and these gentlemen were declared duly elected councillors for their respective congressional districts. The list of councillors elected is as follows:

Dr. L. C. Allen, Hoschton, Ninth District; Dr. O. B. Price, Milledgeville, Tenth District; Dr. Lee Howard, Waycross, Eleventh District; Dr. E. C. Coleman, Graymont, Twelfth District.

DR. W. W. PILCHER: Dr. Stewart Roberts has called my attention to the fact that the Fulton County Medical Society, backed up by the Atlanta Chamber of Commerce, is going to invite the American Medical Association to hold its meeting in 1916 in Atlanta. Therefore, I move that we go on record officially as supporting that action, and that our delegates be instructed to urge and insist, if necessary, that the 1916 meeting of the American Medical Association be held in Atlanta.

Motion seconded and carried.

The Secretary read communications inviting the Association to hold its next annual meeting in Augusta, Athens, Savannah and Columbus.

It was moved by Dr. Pilcher, and seconded by Dr. McRae, that Columbus be unanimously selected as the next place of meeting. Carried.

DR. STEWART R. ROBERTS: I move that the Medical Association of Georgia extend its thanks to the members of the Bibb County Medical Society, to the Chamber of Commerce, to the City of Macon, to the Press, and to the citizens of Macon for their

hospitality extended to us at this meeting, and that the Secretary be instructed to answer the letter which the Chamber of Commerce wrote and sent to the Association.

Motion seconded and unanimously carried.

DR. J. L. HIERS: I move that the sincere thanks of the Association be tendered to our retiring President, Dr. Hardman, for the able and impartial manner in which he has presided over this meeting.

Motion seconded by several and carried unanimously by rising vote.

As there was no further business to come before the meeting, on motion, the Association adjourned to meet in Columbus, 1916.

MEETING INTERNATIONAL HEALTH COMMISSION.

Addresses by Dr. Wickliffe Rose and Dr. John A. Ferrell.

SUBJECTS FOR DISCUSSION.

Tuesday, May 18, Morning Session, 9 o'clock.

1. How may we best conserve what has been accomplished in the eradication of hookworm disease. Dr. Olin West.
Discussion opened by Dr. Emmion Williams, Dr. Oscar Dowling, and Dr. C. H. Brownlee.
2. The treatment of hookworm disease relative to improved methods. Dr. A. G. Fort.
Discussion opened by Dr. C. W. Garrison and Dr. LaBruce Ward.
3. What should be the scope of community work? Dr. LaBruce Ward.
Discussion opened by Dr. E. L. Flanagan and Dr. F. B. Rogers.

Afternoon Session, 2 o'clock.

4. The organization of a community for efficient health work. Dr. P. W. Covington.
Discussion opened by Dr. W. S. Rankin, Dr. Oscar Dowling and Dr. W. W. Dinsmore.
5. The best methods of securing co-operation in community work. Dr. J. S. Lock.
Discussion opened by Dr. W. H. Kibler and Dr. M. W. Steele.
6. The best plan to obtain results in community work in the shortest time. Dr. F. M. Routh.
Discussion opened by Dr. P. W. Covington and Dr. Henry Boswell.

Wednesday, May 19, Morning Session, 9 o'clock.

7. Some difficulties that will be encountered in doing community work, and how they may be overcome. Dr. Henry Boswell.
Discussion opened by Dr. E. L. Flanagan and Dr. R. N. Whitfield.
8. The pit privy, its construction and safety. Dr. R. N. Whitfield.
9. The privy problem in sanitating a community. Dr. A. T. McCormack.
Discussion:
(a) The septic vault privy. Dr. J. S. Lock.
(b) The Stiles privy. Dr. LaBruce Ward.
(c) The L. R. S. privy. Dr. Emmion Williams.
(d) The pit privy. Dr. W. W. Dinsmore.
(e) The sanitary box. Dr. E. L. Flanagan.

Wednesday, May 19, Afternoon Session, 2 o'clock.

10. How it is possible to get every family in a community to build an improved type of privy. Dr. D. C. Azsher.
Discussion opened by Dr. John Collinson and Dr. Henry Boswell.
11. Reports and records as adapted to community work. Dr. John A. Ferrell.
12. Questions relative to work which is being done.

Note.—The conference which has been called through the co-operation of the International Health Commission is primarily for the purpose of discussing the community as a unit for efficient health work. We have in mind the "strengthening, systematizing and standardizing" of community work. The subject to be discussed are related to the community work which has been done by the state and field directors engaged in the eradication of hookworm disease.

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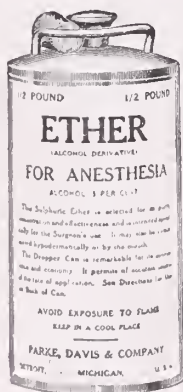
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AUGUSTA, GA., JULY, 1915.

No. 3

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THE CHANGING ASPECTS OF MEDICINE

(Twenty-Five Years Ago and Now.)

COMMENCEMENT ADDRESS, MEDICAL DEPARTMENT, UNIVERSITY OF GEORGIA, JUNE 1ST, 1915.

By Lewellys F. Barker, Professor of Clinical Medicine, Johns Hopkins University, Baltimore.

I am glad that Commencement Exercises continue to be in vogue. For through them, in my opinion, purposes otherwise difficult to serve can, to a certain extent, be fulfilled. In the first place, as Mr. Joseph Choate has facetiously remarked, it gives pleasure to older children of an Alma Mater "in the hour of her annual travail to gather about her couch with patient reverence to witness the birth of the latest addition to the family." Today the Medical Department of the University of Georgia gives "new pledges of her never-failing and ever-renewing creative power." We come together to extend our best wishes to these young doctors as they continue the professional journey of life which today they so auspiciously begin. All those upon whom

a degree has been conferred have profited sufficiently by their education here to permit the University of Georgia to assure the world that they are prepared to take up the practice of medicine. The University, as a mother of noble sons, feels keenly the responsibilities of her expanding motherhood. Each new son, grateful for membership in her illustrious family, will not forget the adage "Nobility obliges."

Another function which the Commencement Exercises serve is the promotion of intercollegiate and interstate relationships. You have followed the custom of inviting a speaker from a distance; and it is a pleasure for me, as a representative of the Johns Hopkins University and of the State of Maryland, to bring greetings from my colleagues and from my fellow citizens to the members of the University of Georgia and to the citizens of your Sovereign State. The pleasantest of relations have always existed between us; your invitation and my acceptance are tokens of the mutual wish that the cordiality which exists may not only continue, but also expand. With State Governors like Slaton and Goldsborough, with University Presidents like Barrow and Goodnow, with Medical Deans like Doughty and Whitridge Wil-

liams, we have the conditions which, surely, augur well for the maintenance and furtherance of harmonious co-operation. Nothing cements friendship between communities more than exchange of men, and we at Johns Hopkins have been indebted during the past several years to the University of Georgia for three important members of our staff. I refer to Dr. Thomas R. Boggs, Associate Professor of Clinical Medicine, Dr. William L. Moss, for some time Associate in Medicine with us, and recently promoted to the headship of the Hospital for the Study of Malignant Diseases in Buffalo, and Dr. Samuel J. Crowe, who has charge of our work on the Nose, Throat and Ear. These three young men, who have rapidly forged a path toward high rank in their profession, are doing credit to their Georgia birth and Georgia training. They are men to whom, for their excellent work, we feel deeply indebted, and in whom, yon of the University and State of Georgia, may feel a justifiable pride.

And what Georgia is doing for us, she is doubtless doing for other states and for other medical centers. It is what we may expect of a State that in the past has given to the medical profession of America such men as Paul Fitzsimmons Eve (1806-1877), who was born near Augusta and became the great surgeon of Nashville and of Atlanta; Crawford Williamson Long (1815-1878), who was born in Danielsville and who was the first to use ether as an anaesthetic; John Murray Carnochan (1817-1887), born in Savannah, and later the distinguished Professor of Surgery in the New York Medical College; and Robert Battey (1828-1895), born in Augusta, practitioner in Rome, and the first to perform the important surgical operation which bears his name. One has only to consult the pages of Garrison's **History of Medicine** or of Kelly's **Cyclopaedia of American Medical Biography** to convince himself of the importance of the contributions of these sons of Georgia to Medicine and especially to Surgery. May the shining examples of the present and of the preceding century serve as a spur to the young Georgia graduates of today to serve their times as men, their profession as original contributors, and their State and Country as good citizens.

I have chosen as the topic of my remarks today, "The Changing Aspects of Medicine."

It is just twenty-five years ago this June that I, pleased but trembling, walked with my classmates up the aisle of Convocation

Hall at the University of Toronto to receive my diploma as a graduate in medicine. It was a satisfactory time medically to be born, and those of us who graduated in 1890 entered upon a goodly heritage. It was a time of great optimism, for the preceding forty years had been a revolutionary period in medicine. Medical men had begun to realize the possibilities of applying the newer methods of physics, chemistry and biology to the solution of medical problems and the air had begun to thicken with important discoveries. Medical centers were full of a restless and many-sided curiosity. The investigation of the effects of disease and inquiries regarding causes were entered upon with a new and a robust enthusiasm. Medical men had begun to glimpse an entirely new future for the sciences which deal with the diagnosis and treatment of the ills of man.

As early as 1859 Darwin had published his **Origin of Species**; through his influence and that of Huxley and of Spencer, the doctrine of evolution had rapidly become the common property of thinkers and had profoundly affected all scholars, especially those engaged in the study of the natural sciences. Weissman's treatise on the germ-plasm had appeared in 1885, and, with its advent, the newer ideas of heredity began to be much discussed.

Human and comparative anatomy had been intensively cultivated in all countries, and thanks to the perfection of the microscope, the new sciences of histology and embryology had been created.

The modern schools of physiology had entered upon their blooming period and those students had counted themselves lucky who had had the chance to work under Claude Bernard in Paris, Ludwig in Leipzig, Michael Foster in Cambridge, or Bowditch in Boston.

Great advances had been made in the study of the circulatory, the digestive, and the nervous systems. Fritsch and Hitzig had made their fundamental experimental studies upon the function of the cortex of the brain, and Ferrier, Beavor, Horsley, Schafer and Goltz had added to their results.

It had been, too, the great era of pathological anatomy and histology. After the publication of his **Cellular Pathology**, post-graduate students had flocked to Virchow in Berlin.

Weigert had introduced his elective methods of staining, and experimental pathology

had begun to develop under the influence of Cohnheim.

Welch had brought the new methods of pathology and bacteriology to America from Germany, and had rewritten the pathology of Flint's Practice in the light of the newer conceptions.

Bacteriology, a brand new science, was in the hey-day of its youth. Its founders, Louis Pasteur and Robert Koch, had already done their greatest work in devising methods for the isolation and cultivation of bacteria, in establishing the bacterial causes of certain specific infectious diseases, and in establishing the principles of preventive inoculation against disease. Before 1890, the bacterial cause of anthrax, of typhoid fever, of lobar pneumonia, of diphtheria, of tuberculosis, of cholera, of epidemic cerebro-spinal meningitis, of tetanus and of many other infectious diseases had been discovered. Methods of preventing disease by inoculation of attenuated viruses had been devised, notably for anthrax and for hydrophobia by Pasteur.

Practical applications quickly began to be made; the Pasteur Institute was opened in Paris and smaller institutes for inoculation against rabies had begun to be established all over the world. Bacteriologists had, too, started to investigate the mechanisms by which the human and animal body defends itself against attack by bacteria. Thus Nuttall in 1888 and Buehner in 1889 had demonstrated in blood serum the presence of substances which can kill bacteria, and Von Behring had just made his important discovery of diphtheria anti-toxin, which was later on to make him world-renowned. But as yet the doctrine of immunity, which was to grow so rapidly later, was only in its swaddling clothes.

In internal medicine, great strides forward had also been made. In addition to that newer knowledge of the infectious diseases which bacteriology had afforded and which had immediately begun to be applied by internists in diagnosis and treatment, a great group of diseases due to animal parasites had been discovered.

Leuckhardt's treatise on human parasites in 1867, and Blanchard's studies of medical zoology (1866-90) had dealt with the larger parasites.

In 1880, the protozoan parasites, which cause malaria, had been discovered by Laveran, and in 1889 Theobald Smith had shown a minute animal parasite, now known as a

piroplasma, to be the cause of Texas fever of cattle.

In other fields internal medicine had also made great progress. If we except Grave's disease and Addison's disease which had been described earlier, it was during this period that the early observations upon diseases of the ductless glands were made.

Gull had described myxoedema in 1873 and Marie had pointed to lesions of the pituitary body in acromegaly in 1886.

The study of diseases of the stomach had received a great impetus from the introduction of the use of the stomach tube by Kussmaul (1867), and of the test breakfast by Ewald (1885). The diagnosis of diseases of the blood had entered new paths through the invention of the blood-counter and the methods of differential staining of the white blood cells (Ehrlich). Clinical neurology had undergone a marked development in France under Charcot, in Germany under Erb, in England under Hughlings Jackson and Gowers, and in America under Weir Mitchell.

Modern psychiatry had scarcely been born though Griesinger had supplied the fertilizing influence for its gestation.

In the United States, internal medicine had not been neglected. Flint, in New York, had made notable contributions, especially to auscultation and percussion; Fitz, in Boston, had worked out the pathology of appendicitis, and Osler had just begun his brilliant work at the Johns Hopkins Hospital where he established a clinical laboratory which, like the clinical institutes started by V. Ziemssen in Munich, is an important landmark.

The cold bath treatment of typhoid had been introduced by Brand, the open-air treatment of tuberculosis by Dettweiler, the thyroid feeding treatment of myxoedema by Murray, and the rest-cure treatment of nervous and exhausted individuals by Weir Mitchell.

Before 1890, too, the first of a great series of synthetic chemicals had been made and used in the treatment of disease. I need mention only antipyrin (1884), sulphonal (1884), cocaine (1884), and acetanilid (1886) to indicate the drift.

The greatest advances in treatment of the period preceding 1890 were, however, surgical. Lister had used carbolic acid as an antiseptic in the treatment of wounds as early as 1865 [and in 1867 formulated his **Antisep-**

tic Principle in the Practice of Surgery]. His work and Pasteur's made the aseptic surgery of the later period possible. Billroth and his assistants had extended surgical treatment to the internal organs of the body, especially to the stomach and intestines. Esmarch had shown how to control hemorrhage and Von Bergmann applied the method of sterilization by steam to surgical dressings. Horsley had dared to operate upon the spinal cord and brain, and Lawson Tait had popularized laparotomy. In the United States, the general surgeons Bigelow, Gross, Semm, Marcy and McBurney, and the gynecologists, Sims, Emmett and Battey, had brought practical surgery to a high degree of perfection.

In the medical and surgical specialties, too, a feverish activity had developed. New methods of examining the eye, ear, nose, throat, and other special organs had been devised, and physicians everywhere were learning to use the ophthalmoscope, the laryngoscope, and nasal and aural specula. Refractive errors, including those due to astigmatism could be corrected, and the problems of intubation of the larynx had been solved by O'Dwyer, of Cleveland.

No wonder that with such a showing for the recent past, medical men in 1890 could be enthusiastic. No wonder that those of us who graduated that year entered upon the work of our profession with zeal and zest, full of expectation that the years before us would still further enrich the methods and the discoveries of medical science.

I may as well admit to you now that despite the best efforts of excellent teachers, I did not know on graduation in 1890, that all that I have just related to you had been accomplished. Medical students even at graduation are never quite abreast of the time. But with my fellow-students, I did feel that we had entered the medical profession at a fortunate juncture. The thrill of the period had penetrated our veins. We knew that the greatness of events just behind was significant of magnitude in occurrences to come.

And yet, as I look back on the medical progress of the twenty-five years which have since elapsed, I am sure that none of us dreamed that the onward movement could proceed as rapidly as it has been our privilege actually to watch. The advances have been astounding—so amazing that we wonder if the next twenty-five years can possibly

have as vast surprises in store for those who will live through them!

From 1890 to 1915 we have, undoubtedly, lived in a most interesting age. Had a physician had his choice of the time when Clotho should begin to draw from her distaff the thread of life, he could scarcely have selected a period more inspiring than that which would bring him to maturity at the beginning of the twentieth century. The intellectual temper of the time has been critical. We have seen one kind of civilization passing; another will soon take its place. Science has passed through a period of cocksureness and is becoming modest again, sincerely questioning its foundations. Philosophy, trying to escape officialdom, has entered into a state of anarchy, having led us on the one hand, to the mystic intuition of Bergson, on the other to the materialization of mind which characterizes the New Realism. Men's minds are being held open as never before; even reason is uncertain of her throne with evolution, instinct, novelty and action as claimants, trying to supplant her.

This general critical and pragmatic attitude of the past twenty-five years has been reflected in medicine, in which a kind of eclecticism has been apparent. Physicians more than ever fear dogma; they look sympathetically at every new opinion as at a new face, hoping it may turn out to be a friend; every "wind of doctrine" is given consideration, for who can say whether it is merely a transitory gust, or a steady breeze, that, gathering force and persistence, may carry their ship on a new and profitable voyage.

The prevailing idea of the time has been investigation—ever more original inquiry. The sense of power which has resulted from the work of men like Pasteur, Koch, Lister, Willard Gibbs and Edison has suddenly expanded the ambition of man to control the forces of nature in his own interest. His astonishing successes have only whetted his appetite, and he is now impatient and insatiable. He knows that by seeking, he **can** find. But the proper conditions of the search must be provided. For the medical sciences, during the last quarter of a century, institutes of research have been endowed and established all over the world.

Every medical department of a university is now a group of such research institutes, and, in addition, many institutes, intended wholly for research aside from teaching, have been founded. It would take too long to

enumerate all those founded since I graduated in medicine, but as examples I may cite the Imperial Institute of Experimental Medicine in Petrograd (1890), the Institute for Infectious Diseases in Berlin (1891), the Lister Institute for Preventive Medicine in London (1891), the Wistar Institute of Anatomy and Biology in Philadelphia (1892), the institute for Experimental Therapy at Frankfurt (1898), the Rockefeller Institute for Medical Research in New York (1901), the Institute Oswaldo Cruz in Rio de Janeiro (1901), the Carnegie Institution of Washington (1902), the Henry Phipps Institute for Tuberculosis (1903), the Sprague Institute in Chicago, and the Institute in San Francisco. The research facilities of hospitals, and of Public Health laboratories have been, and are being, systematically extended.

Great schools for the study of Tropical Medicine have been founded. Large funds for the special study of individual diseases, such as malaria, bubonic plague, sleeping sickness, yellow fever, typhus fever, tuberculosis and cancer have been appropriated.

Discoveries have been made with unprecedented rapidity. The accumulation of scientific medical facts has been like the growth of a snow ball or of an avalanche.

In anatomy, the facts of histology, embryology and experimental morphology, have been greatly extended. The study of the nervous system profited especially. It was the time of W. His, of Golgi, of Ramon y Cajal and of Van Gehuchten. The neurone theory was formulated by Waldeyer (1891), subjected to vigorous attacks by Bethe and Nissl and finally brilliantly confirmed by the studies of Ross Granville Harrison, who watched the axis cylinder process grow out from the cell-body under the microscope. Many beautiful and accurate anatomical atlases have been published. Anatomical terminology has been revised in the BNA (1895) and the newer studies of embryology have been brought together in the treatise of Keidel and Mall.

The anatomical basis of heredity has been the object of illuminating researches (T. H. Morgan, E. B. Wilson, E. B. Conklin, C. E. McClung), and the chromosomal determination of sex has been discovered.

Since 1890 marked progress in physiology has followed the application of physical, chemical and biological methods to the solution of its problems.

The researches of Pavloff on the digestive

secretions with the aid of experimental gastric and pancreatic fistulae, those of Howell on the relations of thrombin and anti-thrombin to coagulation of the blood, those of Loeb on chemical activation of the ovum, those of Bayliss and Starling on hormones, those of Schaefer and his pupils on the internal secretions, those of Engelmann, Einthoven, Erlanger, Thomas Lewis and others on stimulus formation and stimulus-conduction in the heart, those of Sherrington on reflex action, of Langley on the functions of the autonomic nervous system, of Goldschneider, of Blix, of V. Frey, and of Head on cutaneous sensations, of Ewald and of V. Barany on the functions of the vestibular apparatus, those of Kossel and of Emil Fischer on protein and purin-metabolism, and those of Atwater, of Benedict, of Chittenden, of Lusk and others on nutrition—all fall within this period.

In experimental pharmacology, the activity has been so great that almost a wholly new science has been created. The behavior of the animal body under chemically altered conditions of life has not only thrown light upon biology in general, but has given the physician new aid in the treatment of diseased states.

One has only to consult the treatise of Cushny and that of Meyer and Gottlieb (translated by Halsey) to find how far since 1890, science has traveled in the direction of chemically influencing organs and their functions and in combating the causative agents of disease. Schmiedeberg, Brunton, Abel, Hans Meyer, Ehrlich, Cushny, Meltzer, Sollmann, Reid Hunt and their pupils have been largely responsible for the advance.

Among the new remedies introduced, I may refer to epinephrin, aspirin, heroin, hexamethylenamin, veronal, novocain, strophanthin, salvarsan and emetin as especially noteworthy.

Pathology in the period we are considering has undergone a complete change of front. Instead of on pathological anatomy and histology the emphasis is now so wholly placed upon pathological physiology and experimental pathology that there is serious danger of undue neglect of the former methods of study. If you will visit the pathological laboratories of our university medical schools of today you will find that, while autopsies are still done and courses in gross and microscopic pathological anatomy are still given to medical students, almost all of the investi-

gative work is in experimental pathology. Already results of importance have been obtained; our knowledge of the anaemias, the nephropathies, of the cardiopathies, and of the diseases of the liver, of the spleen, of the intestines, and of the ductless glands, has been notably enriched by such experimental studies. In this connection, investigations bearing upon the modes of transmission of disease seem especially worthy of mention. I may remind you (1) of Arthur Loos' demonstration of the mode of transmission of hook-worm infection through penetration of the skin by the larvae (1898), on the basis of which an effective means of prevention was worked out by Stiles and Ashford; (2) of the work of Ronald Ross (1897-98), and of Grassi and Bignami (1899), on the transmission of malaria by the anopheles mosquito; (3) of the demonstration by Walter Reed and his associates (1899) that the virus of yellow fever reaches the blood of human beings through the bite of the *Stegomyia* mosquito; (5) of the demonstration by Bruce (1894) that the tsetse fly disease or nagana of Zululand is due to a trypanosome which can be experimentally transmitted to cattle and horses from the blood of big game animals by the bite of this fly, a finding which was followed later on by the discovery of the cause and mode of transmission of human trypanosome fever and sleeping sickness (Dutton, Todd, Castellani, Bruce and Naborro).

Turning now to bacteriology and parasitology, many new pathogenic micro-organisms have been discovered since 1890.

Among the bacteria isolated since that date are the Gas-bacillus (Welch and Nuttall (1892), the bacillus of plague (1894), the bacillus of dysentery (1897), and the bacillus of whooping cough (1906); among the protozoan parasites of great importance, the pathogenic amoebae of dysentery and of pyorrhoea alveolaris have been carefully worked out, trypanosomes have been found in several diseases besides sleeping sickness, different forms of piroplasma have been observed as the cause of disease—in Kalaazar by Leishman & Donovan, in Oriental sore by J. H. Wright; and in addition to the form of relapsing fever due to the spirocheta obermeieri which was known before 1890, an African form due to the spirocheta Duttoni (1904) and an American form due to the spirocheta Koyvi (1907) have been studied.

The greatest triumph in this field was the

discovery of the *Treponema pallidum* as the cause of syphilis by Schaudinn (1905), and the demonstration since of its presence in the tissues of the brain in general paresis (Noguchi) and in the tissues of the spinal cord in tabes or locomotor ataxia (Noguchi).

Methods of cultivating some of these protozoan parasites have been worked out. Thus the malarial parasites have been cultivated by Bass (1911), and the *Treponema pallidum* by Noguchi (1911). In both instances, entirely new methods of cultivation had to be devised.

The discovery that an inoculable virus, present in foot and mouth disease, will pass through the finest filters was made by Löffler and Frosch (1898). Since then, filterable viruses have been found to be responsible for a whole series of infectious diseases, notably for yellow fever (1901), for dengue (1907), for measles (1911) and for sarcoma in fowls (Peyton Rous, 1911). Very recently Flexner has reported that the filterable virus of the Heine-Medin disease (or poliomyelitis) can be cultivated *in vitro*, and that though very small, it can be stained so as to become visible on microscopic examination.

One of the most striking developments since 1890 has been that of the science of immunology. Though contributions to the subject had been made earlier by Jenner, by Pasteur, and by Theobald Smith, the bulk of the work on the theory and practice of immunity and anaphylaxis falls in the period between 1890 and 1915, ushered in by Von Behring's anti-toxin treatment of diphtheria (1890) and the publication of Metschnikoff's volume on phagocytosis (1891). Our knowledge of a variety of anti-bodies other than anti-toxins has been quickly accumulated.

Thus the effects of **bacteriolysins** were studied by Pfeiffer (1895), of **agglutinins** by Gruber & Durham (1896) and by Widal (1896), of **precipitins** by P. Kraus (1897), of **opsonins** by Denys & Leele (1897) and by Wright & Douglas (1903), and of **anaphylactic substances** by Flexner (1894), Richet & Hericomb (1898) and Theobald Smith (1903 and later by a host of workers. During this time, too, the theory of Immunity has been a lively topic, contributed to from the standpoint of chemistry by Ehrlich and his pupils, from that of physics by Bordet and his pupils, and from that of biology by Metschnikoff and his pupils. Very recently, the study of the defensive ferments of the

body has been seriously taken up by Abderhalden (1912).

When we consider the more practical branches of medicine we find that, whereas in the quarter of a century preceding 1890 surgery outstripped medicine in its advance, in the succeeding twenty-five years internal medicine has surpassed surgery in relative progress. For medicine, escaping from the thralldom of pathological anatomy, has found itself free to study disease from the point of view of pathological physiology, greatly to the advantage of the subject. Medical clinics, and the clinical laboratories which have been set up within them, have begun to subject the manifold syndromes met with in patients to careful functional analysis, with utilization of all applicable methods of the sciences ancillary to diagnosis and therapy. Internal medicine is now exulting in this new freedom, and though as yet only a relatively small part of the field has been explored, the methods of approach are beginning to be better understood, and the prospect of rapid discovery is brighter than ever before.

Diagnostic methods have in the period been markedly enriched especially through the application of laboratory tests and of instruments of precision. In the diagnosis of the infectious and parasitic diseases, the methods of the bacteriologists, parasitologists, and immunologists are now made use of by the clinician. The casual agents, the toxic substances they produce and the antibodies to which they give rise are sought for in blood, urine, faeces, exudates, and punctates. Blood cultures have been especially helpful in the early diagnosis of typhoid fever, septicaemia, endocarditis, and arthritis. The older ideas of rheumatism have disappeared, and the conceptions of joint disease have been clarified, especially through the understanding of chronic foci of infection with metastases to the joints. Lumbar puncture, introduced by Quinke (1891), has led to the exhaustive study of the cerebro-spinal fluid by cytodiagnostic, bacteriodiagnostic and immunodiagnostic methods, and has helped us to recognize early various infections of the meninges and central nervous system.

By such examinations, the different forms of meningitis (meningococcic, pneumococcic, influenzal, tuberculous andluetice) can be quickly differentiated; the diagnosis of cerebro-spinal lues, tabes, general paresis, or

sleeping sickness can sometimes be confirmed, sometimes ruled out.

Tests for the presence or absence of antibodies of various sorts have proven helpful in diagnosis. Of such tests, those in which complement-fixation occurs, due to the presence of specific anti-bodies in the blood-serum in certain diseases, have been most helpful; the best example of such a test is the well-known Wassermann reaction for the diagnosis of syphilis (1906). The presence of agglutinins is tested for in the formerly much-employed Widal reaction in typhoid fever (1896). By the use of Schick's reaction (1910) we can now tell whether or not children or adults who have been exposed to diphtheria have sufficient anti-toxin in their blood to render prophylactic injection of anti-toxin unnecessary. Our knowledge of anaphylactic or allergic states now permits us to understand the nature of and to apply the several tuberculin reactions (subcutaneous, cutaneous, ophthalmic) and the luetin reaction in clinical diagnosis.

The diagnostic value of the newer instruments of precision for graphic registration can perhaps best be illustrated by the advances in diagnosis of disorders of the circulatory apparatus. While sphygmography dates back to the period preceding my graduation, there was no extensive utilization of tracings of the arterial pulse, the venous pulse, and the apex-pulse in clinical studies until later. Of what value such studies could be even to a general practitioner in a small town, the publication of James Mackenzie's volume (1902) clearly revealed. The sphygmomanometer, too, was introduced for the study of blood pressure as early as 1887 by v. Basch, but it was not until the instruments of Riva-Rocci (1896) and of Goacrtner (1899) were devised that blood pressure determinations began to be generally made by clinicians. Now every practitioner has his Tycos, his Faught, or his Janeway apparatus and measures not only the maximal pressure by the palpatory method, but can also in a few moments if he desire measure the minimal pressure by the auscultatory method of Korotkow (1905).

The clinical studies of irregularities of the heart has been made vastly easier by the use of the sensitive string galvanometer of Einthoven (1903) which registers the times and the variations of the electrical action currents in the muscle of the living heart, and now the making of electro-cardiograms

in the heart-station is a part of the routine work on cardiac cases in our larger hospitals. The heart sounds can now, too, be exactly registered by means of delicate instruments in the form of so-called phono-cardiograms. The clinical pathological physiology of the human heart has been revolutionized by these and other graphic methods, as any one may see by consulting A. P. Hirschfelder's *Diseases of the Heart and Aorta* (1913) or T. Lewis's *Clinical Disorders of the Heart Beat* (1914) and his *Lectures on the Heart* (1915).

Of all the newer methods of diagnosis introduced since 1890 perhaps none is more fundamental, none of wider application, than the use of Roentgen rays. Discovered by Roentgen in 1893, and utilized first by surgeons for the diagnosis of fractures and dislocations, these rays have proven even more useful to internists. We employ them for the study of the lungs, the heart, the aorta, the mediastinum, the digestive tract, the urinary tract, and the skeleton. Roentgenography and Roentgenoscopy have become essential to the everyday work of the physician and the subject has developed so rapidly and so extensively that Roentgenology has become a specialty demanding the whole time and energies of one who will perfect himself in it. Roentgen rays, like radium (discovered by the Curies in 1898) are also proving useful in the therapy of diseases of the blood-making organs, of the thymus, of the skin, and of the uterus.

The application of electric light in the construction of apparatus for illuminating cavities has been, since 1890, of great help in medical diagnosis and especially in the development of the medical and surgical specialties. I need refer only to the invention of the electrical ophthalmoscope, the pharyngoscope, and the bronchoscope, and to the improvements in electrical illumination of the oesophagoscope, the gastroscope, the sigmoidoscope, and the cystoscope to bring this point home to you.

On the applications of chemistry to medicine during this quarter of a century, I scarcely dare enter. Qualitative and quantitative chemical studies of the blood, stomach juice, faeces and urine are included in the work of every day. Of the wealth of new methods, one has only to glance through the table of contents of one of the newer textbooks of diagnosis to convince himself. As a result of chemical studies, knowledge of

disorders of metabolism has been materially advanced. To read Von Noorden's *Handbook of Diseases of Metabolism* with understanding, an elaborate chemical training is a prerequisite. Quantitative metabolic studies of the protein, the purin, the carbohydrate, and the mineral metabolism are now frequently undertaken in our larger clinics in renal disease, in infections, in gout, in diabetes, and in obesity. The dietetic treatment of these disorders is gradually being placed upon a sound basis.

The extent to which the doctrine of internal secretion has been applied clinically can be ascertained by reference to Biedl's standard work and to Cushing's *The Pituitary Body and Its Disorders* (1912). A wholly new type of metabolic disorder has been recognized since the diseases due to food-deficiencies (e.g. scurvy; beri beri) have been studied in the light of the vitamin hypothesis. It is by some considered possible that pellagra, that scourge of certain of our Southern States, will be found to fall in this group.

In clinical neurology and psychiatry, especially the latter, important steps forward have been made. I have already referred to the significance of studies of the cerebro-spinal fluid for diagnosis, and I would remind you of the introduction of local treatment of infections by intraspinal injection, started by Flexner for epidemic cerebro-spinal meningitis (1909) and followed by Swift and Ellis for tabes and dementia paralytica. In recent years, the whole question of aphasia has been reopened by P. Marie (1906), and notable contributions to knowledge have followed the re-examination of the subject. In the doctrine of apraxia, established by H. Liepmann (1900), disorders of the movements of the extremities comparable with those of the movements of the speech muscles in aphasia have been illuminated. Important tests for the recognition of lesions of the pyramidal tract have been devised by Babinski, of the cerebellum by Babinski and by Mills and Weisenburg, and of the vestibular apparatus and the conduction paths leading from it by R. Barany (1906). The studies of Freud on psychoanalysis (1900), of Kraepelin on the psychoses (1901), of Janet on psychasthenia (1903), of Dubois on the psychoneuroses (1904), of Binet and Simon on mental retardation (1905-8), of Bleuler on

the schizophrenias (1910) fall within our period.

The need of psychiatric clinics in University Medical Schools long recognized in France and in Germany, has at last been keenly felt in America. Clinics have been established in Ann Arbor and in Boston, and recently (1913) the Phipps Psychiatric Clinic was opened in Baltimore with Adolf Meyer as director.

Surgery, though less conspicuously progressive perhaps than inner medicine in the last twenty-five years, has nevertheless made advances of which it may be proud. Surgical technique has been modified, extended and refined. Operations on the brain, the gall bladder, the stomach, the duodenum, the large intestine, and the ductless glands have been improved, especially by American and English surgeons (Murphy; the Mayo brothers; Keen; Finney; Cushing; Robson; Möynihan; Lane). Excisions of the prostate, splenectomy for Banti's disease and other splenomegalies, radical operation for uterine cancer (Wertheim, 1900), resection of the posterior roots of spinal nerves for the treatment of spastic paralyses (Foerster & Tietze), transplantations of viscera and of blood vessels (Carrel) occlusion of the aorta and larger arteries by means of metal bands (Halsted), operations on the oesophagus, mediastinum, and chest in pneumatic cabinets (Sauerbrück), or with the aid of Meltzer & Auer's intratracheal insufflation (1909), aneurysmorrhaphy for the radical cure of aneurysm (Matas, 1902), intracapsular extraction of cataract (Smith, 1900), sclero-corneal trephining for glaucoma (Elliott, 1909), are among the newer procedures. The use of infiltration anaesthesia (Schleich, 1894), of passive hyperaemia as an adjustment in surgical therapy (Bier, 1903), of bismuth paste in the management of tuberculous sinuses (Beck, 1906), of the fulguration treatment of cancer (De Keating-Hart, 1910), and of shock-prevention by a combination of general with local anaesthesia or so-called anoci-association (Crile) all belong to the quarter of a century behind us.

Finally, a review of medical progress, no matter how brief, for the period mentioned dare not omit mention of (1) the improvements which have been made in medical education through the raising of standards of admission and graduation, the elimination of the proprietary medical schools, the exposure of the equipment, the teaching staff and

the educational results (as tested by State Board examinations) to the inspection and criticism of the medical profession and the public the appointment of the professors in the laboratory branches and of some of the professors in the clinical branches on a so-called whole-time basis; (2) the rise of social medicine as evidenced by the establishment of social service departments in hospitals (Cabot; Emerson), the extension of public health work, the development of the *Krankenkasse* in Germany and of the panel-doctor system in England; (3) the organization of the medical profession by means of associations—national, international, and special; (4) the enormous expansion and specialization of medical bibliography; (5) the better education of larger numbers of trained nurses; (6) the rapid transition which is taking place from the domiciliary to the institutional diagnosis and treatment of disease; and (7) the ever-increasing tendency within the profession toward a division of labor and the multiplication of the specialties.

My time is more than up, and I realize that I have not done more than scratch the surface in my description of the progress of medicine during this wonderful twenty-five years. But even this superficial recounting will have sufficed, I feel sure, to show you that our profession is in no danger of stagnation, to convince you that the current of discovery which has been started will not soon cease to flow.

I congratulate you, members of the graduating class, that, today, you enter the ranks of this noble profession, and I trust that some of you may be privileged to extend medical knowledge as you search for truth. "Not by the possession, but by the investigation of truth," said Lessing, "are the powers of man expanded, and therein alone consists his ever-growing perfection. If God held all truth shut in his right hand, and in his left nothing but the ever restless instinct for truth, though with the condition of forever and ever erring, and should say to me, 'Choose,' I should humbly bow to his left hand, and say, 'Father, give. Pure truth is for thee alone.'"

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FURTHER OBSERVATIONS ON THE SURGICAL TREATMENT OF GOITER.*

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The question of classification of goiters is most sensibly met by a recognition of the fact that the great clinical problem in a given case is whether or not the goiter produces toxic symptoms.



FIG. 1.

Typical active hyperplastic (toxic) goiter. Note small size of thyroid.

Histologically the toxic goiter may be either hyperplastic or non-hyperplastic. A non-toxic goiter is typically non-hyperplastic, and it is doubtful if it is ever hyperplastic. Those hyperplastic goiters which are said to be non-toxic constitute so small percentage of the total number of hyperplastic goiters that they probably represent errors either in histologic diagnosis or in clinical interpretation. Whether the symptoms in non-hyperplastic toxic goiters are thyroidal in origin is open to some question, though the evidence is becoming more and more conclusive that such is the case.

The typical hyperplastic goiter is the ordinary exophthalmic goiter. The typical non-

hyperplastic non-toxic goiter is represented most frequently by the diffuse thyroid enlargement of puberty.



FIG. 2.

Hyperplastic (toxic) goiter with moderate exophthalmos. Note small size of thyroid.

Of course it is understood that various progressive and degenerative changes may take place in almost any goiter. The progressive changes are chiefly those of functional



FIG. 3.

Hyperplastic (toxic) goiter with marked exophthalmos. Since this photograph was made both superior poles have been ligated and boiling water injected, with a very material reduction in size of goiter [within three weeks].

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.



FIG. 4.

On Left—Type of non-toxic, non-hyperplastic goiter [originating at puberty].

On Right—Same patient eight months after partial bilateral thyroidectomy.

hypertrophy (pregnancy, etc.), adenomatosis, and perhaps regeneration of previously atrophied parenchyma (Wilson). The degenerations are chiefly cystic, colloid, and calcareous.

The most frequent tumors of the thyroid are adenomata-fetal and adult. Indeed the

adenoma represents in this part of the country a very large proportion of goiters. It is one of the most easily handled from a surgical standpoint. It may be accompanied by toxic symptoms or not. There may be in



FIG. 5.

Right sided adenoma of thyroid—a very common goiter, which may be toxic or non-toxic.



FIG. 6.

Enormous nodular goiter (multiple adenomata) dissecting underneath sternomastoids on both sides and producing both lateral and antero-posterior pressure on trachea which was almost surrounded by tumor. Hoarseness from pressure on recurrent laryngeals. Only slight general symptoms, illustrating fact that symptoms (except pressure) cannot be judged by size.



FIG. 7.

Multiple adenomata with cystic degeneration. Practically no symptoms.

the thyroid a single adenoma or a very large number of them scattered throughout the gland.

While the histology in the toxic non-hyperplastic goiter has not been determined with accuracy, Wilson maintains that he is able



FIG. 8.

Typical cyst of thyroid. Embarrassed respiration from pressure during anesthesia.

to demonstrate a regeneration of the cellular elements in previously atrophied acini.

In the typical active hyperplastic toxic goiter one cannot fail to be struck with the multiplicity of cells and with the fact that the product of these cells is **not stored up in the gland**. On the contrary, in the non-hyperplastic non-toxic goiter the outstanding

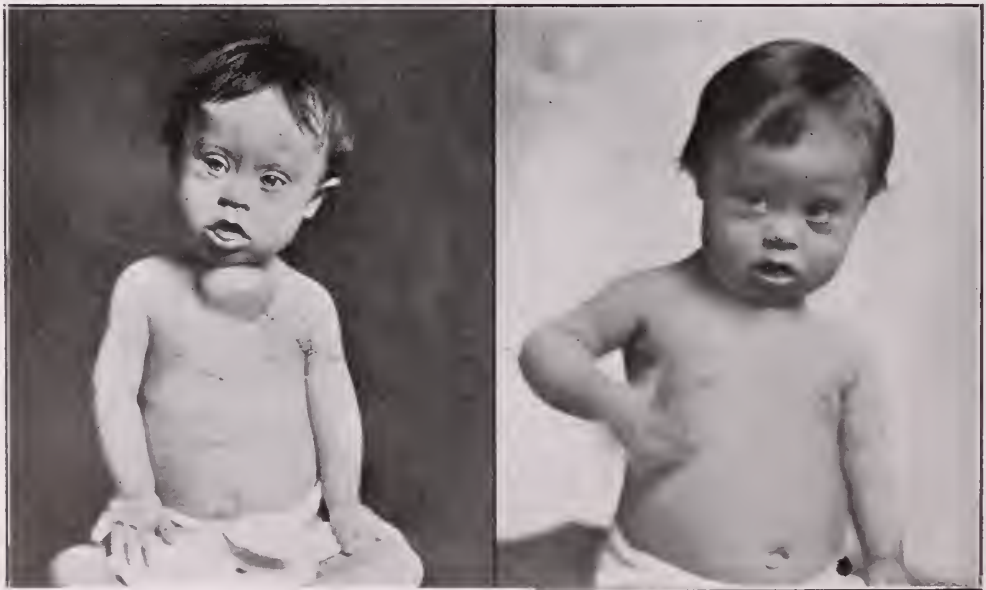


FIG. 9.

On Left—Cretin with enlarged thyroid.

On Right—Same patient after taking thyroid ex-

tract for three or four months. Some remaining thyroid enlargement is concealed by position of child's head.

feature of the histologic picture is dilatation of the acini with retained colloid.

A pertinent question on the part of a patient contemplating an operation for thyroid enlargement, is whether or not a conspicuous scar will be left in the neck. If one is care-

catgut suture approximates the skin accurately. The scar is most conspicuous some two months after operation, when it is pink in color; later the discoloration disappears, so that at the end of six or twelve months very little sign of the operative work will be detected. There are presented herewith several cuts showing the inconspicuous character of the scar at various times after operation. The photographer has been cautioned not to finish the photographs so as to obliterate evidence of the scar.

Drainage for twenty-four or forty-eight hours may not be necessary, but is usually practiced since the average goiter dissection is quite extensive, and the patient perhaps feels more comfortable, if indeed she is not safer, to have the serous discharge escape by way of drainage rather than accumulate in the wound.



FIG. 10.

Showing scar two weeks after operation.

ful to section the platysma with the skin and fascia, and is careful also in closing the wound to approximate the platysma with sutures which ridge up the lips of the wound the scar will not spread. A subcutaneous



FIG. 12.

Showing scar seven months after operation.



FIG. 11.

Showing scar six months after operation.

It is doubtful if there is any large class of surgical patients which makes such a draft upon one's judgment as people who are suffering from well defined toxic symptoms due to goiter. This is true whether the goiter be of the exophthalmic type or not. Indeed, personally, I have experienced greater apprehension about the successful operative management of some patients with the non-hyperplastic toxic goiter, than with the hyperplastic toxic type (exophthalmic). The question of handling safely an individual whose pulse is unstable, and frequently run-

ning from 90 to 140 constitutes a most serious responsibility, and one's responsibility is increased when the rapid and unstable pulse is dependent upon a lesion which can be cured by surgery, if surgery can be invoked with safety.



FIG. 13.

Showing scar seven months after operation.

It is never to be forgotten in the handling of such cases that fright is a factor which may render very dangerous an operation which might be done safely in the absence of fright. It is also to be remembered that



FIG. 14.

Showing scar nine months after operation.

these patients are extremely susceptible to distressing disturbance from comparatively trifling occurrences, but that they are entirely unable to avoid the excitement resulting from these trivialities. There are many patients with toxic goiter who would certainly be killed by the fright incident to taking an anesthetic in the ordinary way. There can be no doubt, under such circumstances, about the wisdom of the general principle of Crile's method of stealing away the goiter.



FIG. 15.

Showing scar twenty months after operation.

I have been surprised at the comparative ease with which tactful handling of a patient will meet the requirements in this respect. The patient commonly assents readily; she is told frankly that she will be operated on without her knowledge at some future time, but that her people will be kept informed. From day to day subterfuges are devised to divert her mind from the fear that she will be operated on tomorrow. Care is exercised to foresee that upon the morning of the actual operation nothing out of the ordinary be done to excite her suspicion. During the waiting period she must, therefore, be given her breakfast at a fixed time every day; she must receive the usual pre-operative enema every morning; she must receive a routine hypodermic of sterile water; the anesthetist at the same hour every morning gives her a fake anesthetic, and thus gradually gains her confidence. She may be allowed to inhale air only, and later perhaps a little gas,

until finally on the morning of the operation she, having been given 1-6 grain of morphine and 1-200 grain of scopolamin instead of the usual hypodermic of water, is anesthetized with gas which is promptly changed to ether.



FIG. 16.

Showing scar twenty-seven months after operation.

On the afternoon prior to the actual operation I make it a point to set some particular task for the patient about the middle of the following day, upon which task I lay some

special stress so that, with this on her mind, the patient feels confident that this at least will certainly not be the day when she will be actually anesthetized. The result of this carefully executed plan is that the patient wakes up with her goiter removed, and has in the meantime escaped the fright which might have been lethal.

There is also a class of patients with toxic goiter who cannot be subjected to a major operation with safety, no matter what precautions may be thrown around the procedure. These patients are usually unsafe because of cardiac dilatation, or at least of myocarditis; many of them likewise have renal lesions of a serious nature. The substitute for thyroidectomy in such cases may be ligation of the superior poles, or injection of boiling water into the gland (Porter), or both. Personally I have been both highly gratified and decidedly disappointed with the results of ligation and injections. Many patients under the influence of double pole ligation will gain from fifteen to thirty pounds within three or four months. It is not surprising that this treatment is not uniformly satisfactory when it is remembered that the superior thyroid artery frequently divides into two or more branches before it enters the gland, and that therefore in such cases ligation, as usually practiced, does not materially interfere with the supply of blood



FIG. 17.

On Left—Hyperplastic (toxic) goiter with cardiac dilatation, exophthalmos, and extreme instability of pulse.

On Right—Same patient five months after ligation of both superior poles and injection of boiling water.

hesitation. I have always practiced it with apprehension, yet I have seen no untoward results. The lack of precision in making injections and the ever present menace of embolism surround the method with a degree of uncertainty and possible danger.

There can be no doubt that not a few patients can with the above expedients be brought to such a stage of improvement that hydroidectomy may be safe and wise.

As to the injection of boiling water without uncovering the gland itself, I have felt some going to the thyroid. Within the past eighteen months when I have practiced pole ligation, I have also at the same time injected somewhat freely of boiling water. More uniformly satisfactory results have been attained than before injections were added to the ligation.



FIG. 18.

Showing a gain of 20 pounds, reduction in size of goiter, and improved exophthalmos four months after ligation of both superior poles.



FIG. 19.

Showing a gain of 25 pounds, improved exophthalmos reduction in size of goiter, and improved tachycardia three months after ligation of both superior poles. Subsequent partial thyroidectomy.

PRE-PELLAGROUS DIGESTIVE AND NERVOUS DISORDERS.

By Roy Blosser, M. D., Atlanta, Ga.

In studying early and atypical cases of pellagra and comparing them with chronic digestive disturbances, I have been strongly impressed with the fact that in the South there is a large group of cases presenting gastro-intestinal and nervous symptoms which bear a marked resemblance to mild cases of pellagra. The presence of such a group of cases was first suspected on account of the observation, which has been made by a number of students of this disease, that pellagrins usually give a history of having suffered from certain chronic disorders for months or years prior to the development of what was diagnosed as pellagra.

While, as I have said, these cases resemble pellagra in some ways, they are lacking in other essentials of what we now consider the complete symptom-complex of this disease, notably stomatitis, diarrhea and skin lesions. Furthermore, it would seem unfair to diagnose such cases as even incipient forms of pellagra because in the South the mention of this disease commonly implies poverty, threatened insanity, a resemblance to leprosy, and contagiousness. Probably for this reason American writers on this subject advise extreme conservatism in making a diagnosis of pellagra. But the tendency of this conservatism is naturally in the direction of late diagnoses, which is most unfortunate from the standpoint of treatment. As in most other diseases the earlier we begin treatment, the more satisfactory will be the results; the pathological changes which are present in late cases of pellagra make complete recovery impossible.

The word pellagra (meaning rough skin) refers to a symptom which is not only a comparatively late development of the disease, but one which may be absent throughout the entire course of an otherwise typical case. It would, therefore, appear to be an unfortunate term for this condition, but an improvement in terminology is hardly to be expected until the etiology of the disease is more satisfactorily cleared up.

I am firmly of the opinion that the pre-pellagrous conditions which I shall later attempt to describe, are potentially cases of

pellagra and that if left to themselves a large percentage of them would develop into more or less typical examples of this disease. It must be admitted, however, that this opinion is based on certain views as to the dietetic etiology of pellagra and on my experience in treating this disease and conditions resembling it, by a modification of diet. Those who contend that pellagra is due to a germ or parasite will hardly be able to agree with the ideas set forth in this paper.

The main question involved is: Are these pre-pellagrous conditions sufficiently characteristic so that they may be recognized as such? I believe that it is possible for those practitioners who are constantly seeing conditions of this kind to correctly diagnose them, and that, in the future, we may be able to clear up the diagnosis in many heretofore obscure chronic cases.

The Diagnosis of Pre-Pellagrous Conditions.

The symptoms characteristic of such conditions are, first, those which are present in chronic gastritis; flatulence and eructations of gas, heartburn, a feeling of distress in the gastric region, and tenderness on pressure. There is often more or less vertigo; also nervousness, irritability, lack of endurance, and other neurasthenic symptoms. A typical feature of all pellagrous conditions is the fact that all symptoms may be absent during cold weather and become much worse during spring and summer. Globus hystericus and dryness of the throat are sometimes very annoying symptoms.

These patients often complain of a feeling of extreme weakness or "giving way" in the epigastric region; also, of weakness of the lower extremities. Constipation may be present, particularly during the winter, but during the spring and summer there are apt to be two movements of the bowels a day and an occasional attack of diarrhea. Finally, we find in every case that there has been an inordinate use of, and craving for, some or all of the following articles of food: corn products of all kinds, including "compound lard" (containing oil of corn) and other lard mixtures; sugar-cane produces, especially sugar-cane syrups, "corn" syrup and other canned syrups, candy and soft drinks or soda water.*

There are certain complications or variations of this condition which may make up only a minor part of the clinical picture, or they may constitute the "presenting symp-

tom in a given case and far outweigh all other features. The following may be mentioned:

(a) Muscular aching and soreness of the legs, arms or back, in the latter region often affecting the psoas muscles, and causing tenderness on deep pressure in the lower abdomen and groin.

(b) Irritability of the heart, palpitation, "heart consciousness."

*For further consideration of the etiologic relationship between certain sugar-cane products and pellagra, see the following: *Journal of A. M. A.*, Aug. 8, 1914, p. 481; *Southern Medical Journal*, Feb. 6, 1915, p. 543.

(c) A sensation of roughness or rawness of the tongue and throat. Some patients state that certain foods affect their tongue within a few minutes after they have eaten them.

(d) In women who have borne children, a pronounced tendency toward uterine hemorrhage without any discoverable organic cause.

Differential Diagnosis.

The symptoms of hyperchlorhydria and of gastric and duodenal ulcer may, in some cases, resemble those herein ascribed to pellagrous conditions. The two conditions may also coexist. An examination for occult blood in the stomach contents and stool should be made. The fact that pellagrous

additions are by far the most frequent of the two would seem, in obscure cases, to justify one in making this as a tentative diagnosis and adopting treatment which is appropriate thereto.

Since the treatment of pre-pellagrous conditions consists mainly in the selection and control of a proper diet for the patient we are thereby afforded a safe and practical means of confirming our diagnosis. In the writer's experience, the use for a week or two of a diet as outlined below gives ample demonstration of the correctness of both our diagnosis and treatment.

Treatment.

In dealing with pellagra in its various forms, it should be borne in mind that such conditions are the result of an unnatural and inordinate appetite or craving for certain foods. This makes it necessary for us to emphasize to our patients the importance of a proper diet. We must not only give them directions as to what they are to eat, but we must use every means at our command to see

that our directions are carried out. They must eat food which is properly prepared and which is sufficiently nourishing, but which will allow the least possible fermentation in the intestinal tract.

For the first week or two it is best to have the patient follow a written menu. Absolutely nothing else is to be eaten or drunk. The writer is accustomed to allowing the following: Oatmeal, shredded wheat biscuits, or cream of wheat, with milk and a little sugar; a soft boiled or coddled egg once or twice a day; toast or one-day-old lightbread or rolls, and butter; puree of pea or potato soup; Irish potatoes (baked or creamed), green peas, spinach, lettuce or celery, steak (broiled), lamb, white meat of chicken, or fish (baked or broiled).

In addition to the three regular meals, extra nourishment is allowed about two hours after breakfast.

Milk is not allowed, except the small amount used on the cereal. In the writer's experience, neither sweet milk nor buttermilk are suitable for these cases, if used in any quantity. Patients may gain in weight on a diet composed largely of sweet milk, but they do not gain in strength and there is considerable fermentation in the intestinal tract.

After a time other vegetables are added to the diet list. Corn, sweet potatoes, turnips and baked beans are not allowed; the boiling of vegetables with fat meat, and all fried foods are also prohibited.

After a few weeks' strict adherence to this diet we find in some cases that our patient is not improving as fast as at first. He is apt to complain that his appetite does not seem entirely satisfied, and craves sweets, sour fruits, etc.; he may feel restless and more or less depressed; he is apt to be badly constipated. These symptoms indicate the need of tonic and supportive treatment, and mild laxatives. Strychnine or *mx vomica* in full doses will usually meet the former indication; as a laxative, a combination of cascara, ipecac and belladonna will be found effective, but should not be continued too long or in larger or more frequent doses than necessary. Other drugs may be needed to meet special indications.

For women, a corset which gives proper support to the abdomen without pressure at the epigastrium is beneficial, and gives considerable satisfaction to the patient.

During the spring and summer months the
(Continued on Page 68.)

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This being the regular Directory Number of The Journal, the space ordinarily assigned to the Editorial Section has been used for directory purposes.

REVOCATION OF LICENSES.

Dear Dr. Lyle:

Will you be kind enough to put a notice in The Journal of the Medical Association calling attention of the physicians of the state to Section 14 of the Medical Practice Act? Under this section of the act any physician who has been convicted of a crime involving moral turpitude should be reported to the State Board of Medical Examiners.

Thanking you in advance for your courtesy in this matter, I am,

Very truly yours,

C. T. NOLAN,

Secretary.

Section 14. REFUSAL TO GRANT LICENSE; REVOCATIONS: Be it further enacted, That said board may refuse to grant a license to practice medicine in this state, or may cause a licentiate's name to be removed from the records in the office of any clerk of court in this state, on the following grounds, to wit: The employment of fraud or deception in applying for license or in passing the examination provided for in this Act; conviction of crime involving moral turpitude; the practice of medicine under a false or assumed name, or the impersonation of another practitioner of a like or different name; habitual intemperance in the use of ardent spirits, narcotics, or stimulants to such an extent as to incapacitate him for the performance of his duties; the procuring or aiding or abetting in procuring a criminal abortion; the obtaining of a fee on representation that a manifestly incurable disease can be permanently cured; causing the publication and circulation of an advertisement of any medicine by means whereby the monthly periods of women can be regulated or the menses, if suppressed, can be established; causing the publication and circulation of an advertisement relative to any disease of the sexual organs; said board may, upon satisfactory proof made that any licentiate has been guilty of any of the offenses above enumerated, suspend said licentiate from the practice of medicine, and call in the license of said licentiate upon a majority vote of said board; provided, however, that said suspended physician shall have a right to appeal to a jury in the superior court of the county of his residence and it shall be the duty of said board to prefer in writing the charge or charges against said physician, which shall be tried by a jury regularly empaneled and sworn. Said physician, the defendant in said proceedings, shall be entitled to an appeal to the supreme court. In the event of conviction by the jury on any of the charges preferred, the license of said physician shall be revoked. However, at any time after six months from the date of said conviction, said board may by a majority vote, issue a new license or grant a license to the person affected, restoring or conferring all the rights and privileges of, and pertaining to, the practice of medicine as defined and regulated by this Act. Any person to whom such rights and privileges have been so restored shall pay to the secretary-treasurer a fee of twenty dollars on the issuance of a new license.

Pre-Pellagrous Digestive and Nervous Disorders

(Continued From Page 66.)

change to a cooler climate is beneficial, but is hardly to be advised unless we have had our patient under observation long enough to allow them to become thoroughly accustomed to their new diet; during this time they require constant aid and advice as to the selection of a proper dietary, and as to the remedial measures needed.

403 Atlanta National Bank Building.

PROPAGANDA FOR REFORM.

Tanlac.—Tanlac (The Cooper Medicine Company, Dayton, O.), is a "tonic and system purifier," and is exploited to the public by means of extravagant and absurd claims. From an examination made in the A. M. A. Chemical Laboratory it appears that Tanlac is essentially a vinous extract which contains 15.7 per cent. absolute alcohol by volume, a bitter drug (such as gentian, an emodin-bearing drug (such as buckthorn, rhubarb or cascara), a berberine-bearing drug devoid of hydrastine (such as berberis aquifolium), glycyrrhizic acid (from licorice), and flavored with wild cherry and to which has been added a relatively large proportion of glycerin. The "Tanlac Laxative Tablets" which accompany Tanlac contained phenolphthalein (Jour. A. M. A., June 5, 1915, p. 1930).

E-Lep-Time.—E-Lep-Time is an "epilepsy cure." According to the Indiana State Board of Health, it contained sodium and potassium bromides 16 per cent., alcohol and ammonium valerate (Jour. A. M. A., June 12, 1915, p. 2006).

Herbetta Curine.—A package of Herbetta Curine contained three envelopes, labeled 1, 2 and 3, respectively, and in addition a number of red tablets. The A. M. A. Chemical Laboratory found that No. 1 consisted of tablets which contained soluble iron phosphate; No. 2, of tablets, which contained some "bitter tonic," and No. 3, of tablets, responding to tests for aloe and aloin. The red tablets were composed essentially of strontium and potassium bromide (Jour. A. M. A., June 12, 1915, p. 2006).

Lepso.—The A. M. A. Chemical Laboratory found this to contain bromides, equivalent to 51 grains potassium bromide per dose of one-half ounce (Jour. A. M. A., June 12, 1915, p. 2006).

Iodex.—Iodex (Menley and James, Ltd., New York), is said to contain 5 per cent. of iodine; the advertising suggests that the effects of free iodine are to be obtained from the preparation, which yet is said not to stain the skin. It is also claimed that thirty minutes after innunction, iodine can be found in the urine. The chemists of the A. M. A. Chemical Laboratory, on examination, found that Iodex contained only about half the claimed amount of iodine, that the iodine did not behave as free iodine, and that after innunction of Iodex, iodine could not be found in the urine. Because of these findings and because of the unwarranted therapeutic claims made for the preparation, the Council on Pharmacy and Chemistry held Iodex ineligible for New and

Non-official Remedies (Jour. A. M. A., June 19, 1915, p. 2085).

Venodine.—Venodine (The Intravenous Products Company, Denver), was stated to be "an Intravenous Iodine Compound" put up in ampules, each of which contains "28 grains of Sodium Iodide, 1/8 grain each of Beechwood Creosote and Guaiacol in a suitable vehicle, and excipients to enhance its compatibility with the circulating blood." The "Therapeutic Indications" were said to include "infectious diseases, such as syphilis, tuberculosis, bronchitis, bacteraemias associated with chronic and acute nephritis (Bright's disease), and other infections." The Council on Pharmacy and Chemistry found Venodine ineligible for New and Non-official Remedies because it was exploited under unwarranted and grossly exaggerated therapeutic claims; because neither the name nor the advertising matter indicated that it was a preparation of the well-known sodium iodide; and because the combination of two such similar substances as creosote and guaiacol is unscientific, adding mystery to the preparation without increasing its efficiency (Jour. A. M. A., June 26, 1915, p. 2155).

Calereose.—Calereose (Maltbie Chemical Company, Newark, N. J.), contains in loose combination approximately equal weights of creosote and lime. The advertising claims having been revised, the Council on Pharmacy and Chemistry postponed definite action pending submission of proof (1) that the large doses of Calereose recommended furnish large amounts of creosote to the blood and (2) that patients taking these large doses do not suffer from digestive disturbances, loss of nutrition, albumin in the urine or phenol urine as claimed. At the same time it was emphasized that this action did not indicate a belief on the part of the Council that enormous doses of creosote are necessary or beneficial in tuberculosis. So far, the Maltbie Chemical Company has not submitted the required evidence. As the Council's postponement of a report has been made to appear as a quasi-approval, the Council voted to announce that Calereose had been refused recognition because the therapeutic claims were exaggerated and unwarranted by the evidence (Jour. A. M. A., June 26, 1915, p. 2155).

Intravenous Radium Solution.—Standard Radium Solution for Intravenous Use (Radium Chemical Company, Pittsburg), is sold in ampules, each containing radium bromide equivalent to 0.05 mgm. radium element and 0.0002 Gm. or less of barium bromide dissolved in 2 Cc. sterile normal salt solution. While the Council on Pharmacy and Chemistry confirmed the claimed composition of this solution so far as concerns the radium content, it refused recognition to the preparation because there is no clear evidence that intravenous injection has any advantage over the other methods of administering radium. The Council holds that on the basis of our present knowledge radium should be used intravenously only by those in a position to study its effects carefully and in an institution equipped with the necessary facilities for such study (Jour. A. M. A., June 26, 1915, p. 213).

Rheumalgine.—Rheumalgine (Eli Lilly & Co., Indianapolis), is put up both in tablet form and as a liquid. Each tablet, or teaspoonful of the liquid, is said to contain: "Strontin salicylate from Natural Oil 5 gr., Hexamethylenamin 2 gr., Colehiene 1200 gr." The Council on Pharmacy and Chemistry found Rheumalgine in conflict with its rules in that unwarranted therapeutic claims were made because the combination is conducive to uncritical prescribing and because the name, being non-descrip-

tive of its composition, encourages thoughtless use (Jour. A. M. A., June 26, 1915, p. 2156).

Typhoid Vaccine.—Extensive clinical trial indicates that typhoid vaccine may influence the course of the disease favorably. The results indicate that, if used with discretion, typhoid vaccines do no harm (Jour. A. M. A., June 26, 1915, p. 2139).

Secretogen.—To call attention to the unfounded and extravagant claims made for internal secretion products, the Council on Pharmacy and Chemistry reports on Secretogen Elixir and Secretogen Tablets, sold by the G. W. Carnrick Company. The report discusses the insufficiency of the evidence for the administration of secretin—claimed to be present in these preparations. The Council holds that a rational basis for the therapeutic value of Secretogen is lacking because there is no evidence that the absence of secretin is a cause of gastro-intestinal diseases, and because there is no evidence that secretin in any form is physiologically active when administered by the mouth (Jour. A. M. A., May 1, 1915, p. 1518).

The Oxypathor.—An order forbidding the use of the United States mails has been issued against the Oxypathor Company, Buffalo, N. Y., and its branches at Columbus, Ohio, and Wilmington, Del. The Oxypathor consists of a piece of nickel-plated tubing filled with inert material, sealed and having attached to each end a flexible cord with a garter-like attachment at the free ends. This outfit was sold with the absurd claim that it caused the absorption of large quantities of the oxygen through the skin of the user (Jour. A. M. A., May 8, 1915, p. 1600).

Burnham's Soluble Iodine.—The Council on Pharmacy and Chemistry reports that Burnham's Soluble Iodine is a semi-secret preparation exploited by extravagant and dangerous therapeutic claims and, therefore, ineligible for New and Non-official Remedies. The A. M. A. Chemical Laboratory has shown that the official tincture of iodine, diluted one-half, would be essentially equivalent to the Burnham preparation. While the promoters claim that the administration of free iodine is therapeutically superior to the administration of iodides, this is a fallacy. The small dose of Burnham's Soluble Iodine recommended by the manufacturer accounts for the

claimed freedom from symptoms of iodism. The Council considers as particularly reprehensible the recommendation to inject the preparation intravenously and the proposed indiscriminate use in tuberculosis (Jour. A. M. A., May 15, 1915, p. 1673).

Venarsen.—The Council on Pharmacy and Chemistry reports that, while formerly Venarsen was marketed with indefinite statements as to its identity and in a way to suggest analogy with salvarsan, it is now admitted to be essentially a sodium cacodylate solution, each ampule containing about 9 grains sodium cacodylate, 1.40 grain mercuric iodid and $\frac{3}{4}$ grain sodium iodid. The Council finds the therapeutic claims made for Venarsan to be exaggerated and unwarranted and holds the administration of sodium cacodylate and mercuric iodid in fixed proportions intravenously to be an irrational procedure (Jour. A. M. A., May 22, 1915, p. 1780).

Nomenclature of Drugs.—The first requisite of successful prescribing is to know what one is giving. Non-descriptive or therapeutically suggestive names for drugs lead to uncritical prescribing, as has been shown by the random use of heroin and the untoward results from Atoxyl. Often proprietary names make it possible to charge an exorbitant price for a well-known drug, as when hexamethylenamin is sold as Uritone, Urotropine or Cystogen and theobromin sodium salicylate as Diuretin. Since the action of drugs depends on their chemical nature, the name should at least suggest the chemical composition of the drug or its source and relationship. The lack of scientific nomenclature of drugs is discreditable and hampering to modern medicine. Physicians should eschew the fanciful or therapeutically suggestive names provided by manufacturers and give preference whenever possible to non-proprietary descriptive names for drugs (Jour. A. M. A., May 29, 1915, p. 1853).

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L. P. Longino.....	"
L. M. Jones.....	"
T. B. Perry.....	"
M. D. Clayton.....	"
T. M. Hall.....	"
J. A. Price.....	"
H. D. Allen.....	"
W. A. Ellison.....	"
G. D. Compton.....	"

BANKS COUNTY.

President—V. D. Lockhart	Maysville
Sec. Treas.—O. N. Hardin.....	Homer
J. S. Jolly	Homer
O. N. Hardin	Homer
V. D. Lockhart	Maysville
M. P. Deadwiler	Maysville
W. P. Hardin	Commerce, RFD. 1
Geo. C. Castellow	Maysville

BARTOW COUNTY.

President—	
Sec. Treas.—Roy D. Stone.....	Cartersville
J. P. Bowdoin.....	Adairsville
R. E. Adair	Cartersville
A. B. Green.....	"
W. C. Griffin	"
A. T. Calhoun	"
Roy D. Stone	"
T. Lowry	Enhawlee
G. T. Banks	Pinelog
S. M. Howell	Cartersville

BEN HILL COUNTY.

President	
Sec. Treas.	
E. A. Russell.....	Fitzgerald
D. B. Ware.....	Fitzgerald

BERRIEN COUNTY.

President	
Sec. Treas.—Earl Carter.....	Nashville
L. A. Carter.....	Nashville
Earl Carter.....	"
G. S. Selman.....	"
W. A. Moore.....	Alapaha
S. G. Etheridge.....	Sparks
L. B. Lovett.....	Sparks
R. C. Woodard.....	Adel
Etheridge Hall.....	Adel
F. M. Burkhalter.....	Rays Mill
H. W. Clements.....	Rays Mill
Geo. A. Paulk.....	Alapaha

BIBB COUNTY.

President—C. H. Richardson.....	Macon
Sec. Treas.—M. D. Council.....	"
F. C. Johnson.....	Walden
H. McHatton.....	Macon
M. A. Clark.....	"
C. C. Harrold.....	"
O. H. Weaver.....	"
A. P. Kemp.....	"
J. E. Wright.....	"
M. M. Stapler.....	"
J. M. Moore.....	"
W. J. Little.....	"
J. R. B. Branch.....	"
R. H. Stovall.....	"
W. C. Pumpelly.....	"
C. H. Haralson.....	Mont Alto, Pa.
H. Respass.....	Macon
H. J. Williams.....	"
S. B. Palmer.....	"
J. C. McAfee.....	"
T. E. Blackshear.....	"
C. L. Anderson.....	"
D. D. Walker.....	"
T. E. Rogers.....	"
G. Y. Massenburg.....	"
J. P. Holmes.....	"
J. C. Anderson.....	"
J. P. Newman.....	R.F.D. 2
G. T. Miller.....	"
O. F. Keen.....	"
J. A. Selden.....	"
J. W. Rogers.....	"
L. C. McAfee.....	"
I. H. Adams.....	"
T. H. Hall.....	"
J. H. Shorter.....	"
T. A. Hurley.....	"
Max Jackson.....	"
J. T. Ross.....	"
K. P. Moore.....	"
Orman Daniel.....	"
Harry Moses.....	"

A. B. Jemison.....	Macon
F. L. Webb.....	"
H. Winship.....	"
C. H. Richardson, Jr.....	"
B. W. Greene.....	"
J. M. Sigman.....	"
M. D. Council.....	"
A. R. Rozar.....	"
B. S. Gostin.....	"
H. P. Derry.....	"
J. B. Ward.....	"
W. H. Whipple.....	"
Mary McKay.....	"
J. W. Cowart.....	Walden
J. E. L. Johnson.....	Roberta
C. C. Frederick.....	Lizella

BLUE RIDGE SOCIETY.

President—J. B. Chastain.....	Blue Ridge
Sec.-Treas.—C. B. Crawford.....	Blue Ridge
Chas. G. McMahan.....	Copper Hill, Tenn.
C. W. Strauss.....	Copper Hill, Tenn.
E. L. Prince.....	Morganton, Ga.
A. L. Prince.....	Morganton, Ga.
H. P. Hyde.....	Mineral Bluff
N. C. Thomas.....	Mineral Bluff
J. S. Tankersley.....	Ellijay
C. S. Cox.....	"
N. C. Goss.....	"
W. B. Tate.....	Tate
J. M. Daves.....	Blue Ridge
J. B. Chastain.....	"
C. B. Crawford.....	"

BROOKS COUNTY.

President—Wallace Matthews.....	Quitman
Sec.-Treas.—L. A. Felder.....	Quitman
Wallace Matthews.....	Quitman
J. R. McMichael.....	"
L. A. Felder.....	"
S. S. Gaulden.....	"
E. L. Jelks.....	"
J. T. King.....	"
A. B. Colvin.....	R.F.D. "
R. J. Clower.....	Morven
R. L. May.....	Quitman
H. L. Cook.....	R.F.D. Quitman

BULLOCH COUNTY.

President—A. J. Mooney.....	Statesboro
Sec.-Treas.—F. F. Floyd.....	Statesboro
M. M. Lively.....	Statesboro
L. W. Williams.....	"
A. J. Mooney.....	"
B. A. Deal.....	"
F. F. Floyd.....	"
J. M. McElveen.....	"

BURKE COUNTY.

President—C. H. Cox.....	Waynesboro
Sec.-Treas.—J. M. Byne.....	Waynesboro
H. J. Morton.....	Waynesboro
C. H. Cox.....	"
J. M. Byne.....	"
R. L. Miller.....	"
M. O. Fulcher.....	"
H. A. McCauley.....	"
L. P. Herrington.....	"
V. H. Kelly.....	Gough
H. F. Bent.....	Midville
W. C. McCarver.....	Vidette

BUTTS COUNTY.

President—A. F. White.....	Flovilla
Sec.-Treas.—H. W. Copeland.....	Jackson

A. F. White.....	Flovilla
W. J. Waits.....	Flovilla
J. L. Byron.....	Jackson
H. W. Copeland.....	"
R. A. Gunter.....	"
W. H. Steele.....	R.F.D. "
J. M. Thaxton.....	R.F.D. "
J. W. Harper.....	Jenkinsburg
B. F. Aiken.....	Jenkinsburg
J. E. Woods.....	Jackson

CARROLL COUNTY.

President—H. J. Goodwin.....	Roopville
Sec.-Treas.—R. E. Foster.....	Carrollton
H. L. Barker.....	Carrollton
C. L. Baskin.....	Temple
G. W. Burnett.....	Whitesburg
J. B. Camp.....	Carrollton
B. L. Embry.....	Villa Rica
W. L. Pitts.....	Carrollton
R. E. Foster.....	"
I. H. P. Garst.....	"
H. J. Goodwin.....	Roopville
J. C. Griffies.....	Carrollton
Claude Griffin.....	"
M. M. Hallum.....	"
G. W. Hammond.....	"
J. D. Hamrick.....	"
J. L. Lovvorn.....	Bowdon
H. R. Marchman.....	Villa Rica
J. A. Martin.....	Mt. Zion
J. J. Nutt.....	Bowdon
B. C. Powell.....	Villa Rica
D. S. Reese.....	Carrollton
O. W. Roberts.....	Carrollton
T. E. Rodgers.....	Waco
T. M. Spruell.....	Temple
L. E. Wilson.....	Bowdon
W. P. Smith.....	Bowdon
A. L. Scroggin.....	Carrollton

CHATHAM COUNTY.

President.....	
Sec.-Treas.—V. H. Bassett.....	Savannah
A. L. R. Avant.....	Savannah
J. O. Baker.....	"
W. F. Brunner.....	"
V. H. Bassett.....	"
T. J. Charlton.....	"
J. F. Chisholm.....	"
J. A. Crowther.....	"
M. X. Corbin.....	"
J. N. Carter.....	"
E. R. Corson.....	"
W. B. Crawford.....	"
St. Julien R. deCaradeuc.....	"
W. R. Dancy.....	"
D. B. Edwards.....	"
J. L. Farmer.....	"
B. H. Gibson.....	"
H. W. Hesse.....	"
Jabez Jones.....	"
J. L. Jackson.....	"
G. H. Johnson.....	"
R. Lattimore.....	"
L. Lee.....	"
H. H. Martin.....	"
H. H. McGee.....	"
J. E. Morrison.....	"
W. H. Myers.....	"
C. H. Meldrim.....	"
W. A. Norton.....	"
W. W. Owens.....	"
W. B. Orear.....	"
S. L. Phillips.....	"
B. S. Purse.....	"
H. Y. Righton.....	"

Chas. Silverman.....	Savannah
A. A. Morrison.....	"
M. R. Thomas.....	"
R. M. Thomson.....	"
J. K. Train.....	"
Chas. Usher.....	"
J. A. Usher.....	"
S. Usher.....	"
J. Weichselbaum.....	"
T. P. Waring.....	"
A. J. Waring.....	"
W. S. Wilson.....	"
G. R. White.....	"
F. Wahl.....	"
T. S. Clay.....	"
J. T. Rogers.....	"
B. P. Oliveros.....	"
W. A. Cole.....	"
J. T. Maxwell.....	"
Everette Iseman.....	"
E. S. Osborne.....	"
G. H. Lang.....	"
H. Rubin.....	"
C. G. Redmond.....	"
A. W. Winders.....	"
F. L. Underwood.....	"
Geo. M. Norton.....	"
J. Lawton Hiers.....	"
A. B. Cleborne.....	"
William Lapat.....	"
L. H. Lanier.....	Marlow
J. O. Strickland.....	Pembroke
Howard T. Exley.....	Savannah

CHEROKEE COUNTY.

President—	
Sec. Treas.—	
James Mayhugh.....	Cartersville

CLARKE COUNTY.

President—C. N. Sisk.....	Athens
Sec. Treas.—H. I. Reynolds.....	Athens
C. N. Sisk.....	Athens
M. F. Matthews.....	"
J. C. Bloomfield.....	"
A. C. Holliday.....	"
S. S. Smith.....	"
J. C. McKinney.....	"
J. A. Hunnicutt, Jr.....	"
H. I. Reynolds.....	"
H. M. Fullilove.....	"
J. P. Proctor.....	"
J. C. Holliday.....	"
E. M. Coleman.....	"
W. W. Brown.....	"
I. H. Goss.....	"
D. H. DuPree.....	"
G. T. Canning.....	"
R. M. Goss.....	"
W. H. Cabaniss.....	"
F. W. Coile.....	Winterville
W. H. Reynolds.....	Lexington
A. W. Martin.....	Winterville
H. C. Strickland.....	Oconee Heights
W. R. King.....	Crawford
J. H. Swafford.....	Athens
W. A. Carlton.....	Athens
W. B. Conway.....	Athens
R. P. Glem.....	Fort Worth, Texas

CLAY COUNTY.

President—	
Sec. Treas.—	
W. J. Tatum.....	Ft. Gaines
H. R. Ingram.....	Coleman

COBB COUNTY.

President—C. T. Nolan.....	Marietta
Sec. Treas.—C. A. Donahoo.....	Marietta
C. T. Nolan.....	Marietta
W. E. Benson.....	"
W. M. Kemp.....	"
C. A. Donahoo.....	"
J. D. Malone.....	"
E. M. Bailey.....	Acworth
W. H. Perkinson.....	Marietta

COFFEE COUNTY.

President—Geo. L. Touchton.....	Douglas
Sec. Treas.—W. A. Sibbett.....	Douglas
C. W. Roberts.....	Douglas
H. C. Wheelchel.....	"
Q. Holton.....	"
W. F. Sibbett.....	"
Gordon Burns.....	"
Geo. L. Touchton.....	"
Jas. De Lamar.....	"
W. A. Sibbett.....	"
I. W. Moorman.....	Ambrose
W. L. Hall.....	Garrant
E. C. Perkins.....	Alma
G. W. Ricketson.....	Broxton
C. W. Corbett.....	Pearson
Joe Corbett.....	Pearson
B. O. Quillian.....	Willacoochee
H. P. Smith.....	Willacoochee

COLQUITT COUNTY.

President—	
Sec. Treas.—Everett Daniel.....	Moultrie
W. W. Massey.....	Moultrie
W. L. Jerkins.....	"
M. L. Stuart.....	"
W. L. Lovett.....	Norman Park
J. A. Summerlin.....	Hartsfield
Everett Daniel.....	Moultrie
J. G. Culpepper.....	"

COWETA COUNTY.

President—W. A. Turner.....	Newnan
Sec. Treas.—Paul Peniston.....	"
W. H. Turner.....	Roscoe
W. F. Culpepper.....	Senoia
O. D. Adamson.....	Raymond
D. A. Haney.....	Newnan
T. B. Davis.....	"
A. A. Turner.....	"
T. S. Bailey.....	"
Will Woodruff.....	"
T. J. Jones.....	"
W. F. Welch.....	"
Paul Peniston.....	"
P. J. Peniston.....	"
A. Roy Hogg.....	Haralson
L. S. Young.....	Moreland
A. A. Barge.....	Newnan
C. C. Elliott.....	Sargent

CRISP COUNTY.

President—J. A. Ward.....	Cordele
Sec. Treas.—T. E. Bradley.....	"
V. O. Harvard.....	Arabi
A. R. Heyward.....	Warwick
T. J. McArthur.....	Cordele
T. E. Bradley.....	"
Ford Ware.....	"
L. E. Williams.....	R.F.D.
A. J. Wheelchel.....	"
M. R. Smith.....	"
B. Daniel.....	"

F. R. Wallace.....	Cordele
P. L. Williams.....	"
J. S. McKenzie.....	"
J. A. Ward.....	"
W. E. Edwards.....	"
W. B. Marshall.....	"
S. F. Williams.....	"
W. A. Miller.....	Arabi

DECATUR COUNTY.

President—G. T. Clark.....	Bainbridge
Sec.-Treas.—Gordon Chason.....	Bainbridge
W. L. Bowers.....	Vada
L. D. Berry.....	Faceville
E. C. Bridges.....	R.F.D.—Brinson
W. D. Oliver.....	R.F.D.—Brinson
S. A. V. Christophine.....	Attapulugus
R. F. Wheat.....	Amsterdam
B. Whisnant.....	Brinson
F. C. Herring.....	Climax
N. L. Spengler.....	Donalsonville
Thomas Chason.....	Donalsonville
Gordon Chason.....	Bainbridge
A. E. B. Alford.....	"
V. Berry.....	"
A. E. Crawford.....	"
G. T. Clark.....	"
J. L. Chason.....	"
M. P. Sporman.....	Climax
T. H. Green.....	Natchez, Miss.

DEKALB COUNTY.

President—	
Sec.-Treas.	
A. R. Watkins.....	Chamblee
W. T. McCurdy.....	Stone Mountain
W. S. Ansley.....	Decatur
C. L. Allgood.....	Scottdale
Frances Sweet.....	Decatur
James F. Pitman.....	"
C. E. Pattillo.....	"
J. M. Tribble.....	Lithonia
Fred Morris.....	Kirkwood

DOOLY COUNTY.

President—	
Sec.-Treas.—F. E. Williams.....	Vienna
H. A. Mobley.....	Vienna
T. F. Bivins.....	"
F. E. Williams.....	"
J. L. Lee.....	Pinehurst

DOUGHERTY COUNTY.

President—	
Sec.-Treas.—	
J. M. Barnett.....	Albany
J. C. Keaton.....	"
W. L. Davis.....	"

EFFINGHAM COUNTY.

President—W. W. Smith.....	Clyo
Sec. Treas.—E. W. Griffin.....	Springfield
W. W. Smith.....	Clyo
H. R. Tarver.....	Guyton
B. P. Powers.....	Guyton
E. W. Griffin.....	Springfield
R. M. Exley.....	Rincon

ELBERT COUNTY.

President—T. H. Gaines.....	Elberton
Sec.-Treas.—L. P. Eberhardt.....	"
F. L. Adams.....	R.F.D.—Elberton
D. V. Bailey.....	"
J. A. Dillshaw.....	Bowman
T. H. Gaines.....	R.F.D.—Elberton
L. P. Eberhardt.....	"

J. E. Johnson.....	Elberton
W. J. Matthews.....	"
A. S. Oliver.....	"
A. C. Smith.....	"
A. S. J. Stovall.....	"
D. N. Thompson.....	"
G. W. Ward.....	R.F.D.
B. F. Smith.....	"
O. B. Walker.....	Bowman

EMANUEL COUNTY.

President—	
Sec.-Treas.—R. C. Franklin.....	Graymont
M. F. Mosley.....	Oak Park
J. H. Chandler.....	Swainsboro
G. L. Smith.....	Swainsboro
J. B. Carter.....	Blundale
B. F. Johnson.....	Garfield
A. C. Johnson.....	Garfield
E. A. Chance.....	Garfield
T. E. Blackburn.....	Swainsboro
L. P. Youmans.....	Swainsboro
D. C. LaGrone.....	Summertown
V. E. Franklin.....	Graymont
R. C. Franklin.....	Graymont
J. D. Bailey.....	Summertown
C. R. Riner.....	Summit
R. E. Graham.....	Stillmore
J. O. Rountree.....	Canoochee
L. Lanier.....	Wesley
E. T. Coleman.....	Graymont

FLOYD COUNTY.

President—	
Sec.-Treas.—	
R. M. Harbin.....	Rome
W. P. Harbin.....	"
W. L. Funkhouser.....	"
W. J. Shaw.....	"
Ross P. Cox.....	"
A. C. Shamblyn.....	"
J. C. Watts.....	"
Geo. B. Smith.....	"
J. T. McCall.....	"
J. N. Cheney.....	Silver Creek
R. O. Simmons.....	Rome
M. M. McCord.....	"
R. H. Wicker.....	"
J. L. Garrard.....	"

FRANKLIN COUNTY.

President—S. D. Brown.....	Royston
Sec.-Treas.—B. T. Smith.....	Carnesville
S. D. Brown.....	Royston
F. G. Moss.....	"
G. T. Ridgeway.....	"
W. B. Heller.....	Lavonia
H. M. Birdsong.....	Ashland
C. B. Lord.....	Ashland
J. R. Hall.....	Carnesville
G. M. Parker.....	"
B. T. Smith.....	"
W. W. Cornogg.....	Lavonia

FULTON COUNTY.

President—S. R. Roberts.....	Atlanta
Secretary—M. L. Boyd.....	"
Treasurer—A. H. Lindorme.....	"
Robin Adair.....	Atlanta
R. H. Allen.....	"
E. G. Ballenger.....	"
S. T. Barnett.....	"
Marion Benson.....	"
Charles Boynton.....	"
W. T. Bivings.....	"
M. L. Boyd.....	"

E. B. Block.....	Atlanta	J. A. Gentry.....	Atlanta
Howard Bucknell.....	"	T. H. Hancock.....	"
Alfred Brown.....	"	L. S. Hardin.....	"
W. E. Barber.....	"	M. Hoke.....	"
F. P. Calhoun.....	"	F. G. Hodgson.....	"
K. R. Collins.....	"	J. C. Johnson.....	"
J. L. Campbell.....	"	M. K. Jenkins.....	"
W. E. Campbell.....	"	R. R. Kime.....	"
M. G. Campbell.....	"	C. B. Greer.....	"
W. L. Champion.....	"	W. F. Well.....	Hapeville
T. J. Collier.....	"	E. R. Park.....	Atlanta
Cecil Stockard.....	"	W. B. Emery.....	"
A. W. Stirling.....	"	L. Amster.....	"
C. W. Strickler.....	"	Arch. Avery.....	"
Thos. H. Smith.....	"	J. C. Avery.....	"
Theodore Toepel.....	"	J. B. Baird, Jr.....	"
G. C. Trimble.....	East Point	Roy Blosser.....	"
G. K. Varden.....	Atlanta	E. V. Bailey.....	"
F. E. Van der Veer.....	"	J. R. Barfield.....	"
S. B. Vryonis.....	"	L. J. Blanton.....	"
W. F. Westmoreland.....	"	E. C. Cartledge.....	"
J. C. White.....	"	W. M. Dunn.....	"
W. C. Warren.....	"	A. L. Fowler.....	"
T. C. Davison.....	"	A. P. Flowers.....	"
W. M. Powell.....	"	John Funke.....	"
J. R. Smith.....	"	T. F. Guffin.....	East Point
C. E. Ware.....	"	H. F. Hooper.....	Atlanta
L. B. Clarke.....	"	C. E. Hall.....	"
R. G. Stephens.....	"	H. F. Harris.....	"
M. W. Manahan.....	"	M. B. Hutchins.....	"
Jas. B. Baird, Sr.....	"	G. P. Huguley.....	"
J. F. Denton.....	"	H. W. S. Hayes.....	"
W. F. Shallenberger.....	"	F. G. Jones.....	"
W. A. Selman.....	"	H. M. Lokey.....	"
W. N. Adkins.....	"	S. W. Merritt.....	"
Jas. N. Brawner.....	"	B. S. Moore.....	"
C. E. Murphey.....	"	J. C. Patterson.....	"
H. C. Miller.....	"	W. E. Quillian.....	"
M. A. Massoud.....	"	G. W. Quillian.....	"
H. W. Minor.....	"	C. M. Remsen.....	"
Geo. M. Murray.....	"	L. P. Stevens.....	"
Alice Moses.....	Muscogee	W. B. Sharpe.....	"
F. W. McRae.....	Atlanta	J. D. Thompson.....	"
Violet McMillan.....	"	E. B. Thomas.....	"
J. C. McDougal.....	"	Chas. J. Vaughn.....	"
Geo. M. Niles.....	"	John Wallace.....	"
R. M. Nelson.....	"	O. B. Bush.....	"
J. E. Paullin.....	"	A. H. Bunce.....	"
C. H. Paine.....	"	W. L. Barnes.....	"
K. H. Reid.....	"	V. C. Cooke.....	"
R. B. Ridley, Jr.....	"	R. T. Dorsey.....	"
W. C. Robinson.....	"	W. A. Gardner.....	"
L. C. Rouglin.....	"	M. McH. Hall.....	"
S. R. Roberts.....	"	E. G. Jones.....	"
Dunbar Roy.....	"	J. C. King.....	"
C. A. Rhodes.....	"	D. J. Manget.....	"
H. L. Reynolds.....	"	M. C. Pruitt.....	"
Cosby Swanson.....	"	W. C. Gould.....	"
G. F. Spearman.....	"	H. R. Donaldson.....	"
A. L. Sawyer.....	"	H. M. S. Adams.....	"
C. A. Smith.....	"	F. K. Boland.....	"
Leroy W. Childs.....	"	Francis Bradley.....	"
Chas. P. Cipolla.....	"	T. D. Longino.....	"
E. C. Davis.....	"	Geo. C. Mizell.....	"
J. W. Duncan.....	"	E. P. Merritt.....	"
R. R. Daley.....	"	W. E. Ragan, Jr.....	"
J. S. Derr.....	"	J. E. Summerfield.....	"
M. T. Davis.....	"	E. C. Thrash.....	"
B. C. Duncan.....	"	C. R. Andrews.....	"
W. S. Elkin.....	"	J. G. Earnest.....	"
L. C. Fischer.....	"	A. B. Elkin.....	"
H. M. Foster.....	"	W. L. Gilbert.....	"
Jno. B. Fitts.....	"	S. T. Harris.....	"
K. E. Foster.....	East Point	W. P. Nicholson.....	"
O. O. Fanning.....	Atlanta	Geo. H. Noble.....	"
C. G. Giddings.....	"	W. A. Upchurch.....	"
W. S. Goldsmith.....	"	C. P. Ward.....	"
L. M. Gaines.....	"	W. E. Yankey.....	"

J. R. McCord.....	Atlanta
B. H. Barr.....	"
Newton Craig.....	"
F. M. Sutton.....	"
B. H. Wagnon.....	"
W. A. Crowe.....	"
H. C. Sauls.....	"
C. O. Smith.....	"
O. H. Matthews.....	"
L. P. Daley.....	"
Harsell Crenshaw.....	"
T. B. Armstrong.....	"
E. S. Colvin.....	"
J. H. Hines.....	"

GLYNN COUNTY.

President—	
Sec.-Treas.	
T. F. Abercrombie.....	Brunswick
J. W. Simmons.....	Brunswick

GRADY COUNTY.

President—	
Sec.-Treas.—	
W. A. Walker.....	Cairo
J. A. Lindsay.....	"
J. B. Warnell.....	"
C. H. Maxwell.....	Calvary
Eugene Clower.....	Cairo

GREENE COUNTY.

President—H. C. Foster.....	Union Point
Sec.-Treas.—F. A. Neergaard.....	White Plains
Goodwin Gheesling.....	Greensboro
J. H. Gheesling.....	Greensboro
F. A. Neergaard.....	White Plains
C. C. King.....	"
C. O. Copelan.....	"
H. C. Foster.....	Union Point
J. R. Robins.....	Siloam
E. G. Adams.....	Greensboro
J. C. Asbury.....	"

GORDON COUNTY.

President—W. R. Barnett.....	Sugarvalley
Sec.-Treas.—C. F. McLain.....	Calhoun
J. M. Erwin.....	Calhoun
E. O. Shellhorse.....	Calhoun
W. R. Barnett.....	Sugarvalley
C. F. McLain.....	Calhoun
R. A. Verdier.....	Carrollton
W. B. Floyd.....	Plainville
H. L. Erwin.....	Dalton
W. R. Richard.....	Calhoun
G. W. Mills.....	Calhoun
M. A. Acree—R.F.D.1.....	Calhoun
R. L. Rogers.....	Fairmont
A. L. Horton.....	Ranger
V. Langford—R.F.D.2.....	Calhoun
D. J. Borders—R.F.D.2.....	Calhoun
B. W. Fite.....	Resaca, Ga.
W. G. Banister.....	Plainville

GWINNETT COUNTY.

President—	
Sec.-Treas.—D. C. Kelly.....	Lawrenceville
D. C. Kelly.....	Lawrenceville
W. J. Hutches.....	Buford
O. D. Hall.....	Buford
B. D. Rhodes.....	Grayson
W. T. Hinton.....	Dacula
B. V. Wilson.....	Dacula
C. A. Kelley.....	Lilburn
P. O. Mauldin.....	Norcross
Chalmers Hinton.....	Lawrenceville

HABERSHAM COUNTY.

President—J. B. Jackson.....	Clarksville
Sec.-Treas.—W. V. Chandler.....	Baldwin
J. B. Jackson.....	Clarksville
J. K. Burns.....	Clarksville
W. V. Chandler.....	Baldwin
P. Y. Duckett.....	Cornelia
D. M. Carter.....	Mt. Airy
E. H. Lamb.....	Demorest
R. B. Lamb.....	Demorest

HALL COUNTY.

President—J. D. Mauldin.....	New Holland
Sec.-Treas.—C. D. Wheelchel.....	Gainesville
H. L. Rudolph.....	Gainesville
J. B. Rudolph.....	"
E. T. Gibbs.....	"
A. D. White.....	"
J. H. Downey.....	"
B. W. Lockhart.....	Clermont
J. D. Mauldin.....	New Holland
J. A. Kitchens.....	Murrayville
C. D. Wheelchel.....	"
J. H. McClure.....	"
P. E. B. Robertson.....	"
L. R. Bryson.....	Oakwood
J. C. Orr.....	Flowery Branch
A. J. Cavender.....	Murrayville
Giles Hathcock.....	Lula

HARRIS COUNTY.

President—W. E. Farley.....	Hamilton
Sec.-Treas.—Ralph Williams.....	Chipley
W. E. Farley.....	Hamilton
M. F. Pennington—R. F. D.....	Hamilton
Ralph Williams.....	Chipley

HART COUNTY.

President—B. C. Teasley.....	Hartwell
Sec.-Treas.—W. E. McCurry.....	Hartwell
J. I. Jenkins—R.F.D.....	Bowman
G. T. Harper—R.F.D.....	Elberton
A. P. Hanie.....	Hartwell
D. J. Barton.....	"
B. C. Teasley.....	"
J. C. Jenkins.....	"
W. E. McCurry.....	"
Geo. S. Clark.....	"

HENRY COUNTY.

President—	
Sec.-Treas.—	
R. L. Tye.....	McDonough, Ga.
J. A. Combs.....	Locust Grove

HOUSTON COUNTY.

President—	
Sec.-Treas.—	
W. S. White.....	Fort Valley
O. G. Singleton.....	Fort Valley
J. W. Story.....	Kathleen

IRWIN COUNTY.

President—	
Sec.-Treas.—G. W. Willis.....	Ocilla
W. J. Dismuke.....	Ocilla
G. W. Willis.....	"
J. C. Luke.....	"
J. J. Luke.....	"
S. L. McElroy.....	"
H. P. Lyon.....	Mystic
Aubrey Harper.....	Wray

JACKSON COUNTY.

President—	
Sec.-Treas.—J. C. Bennett.....	Jefferson

L. J. Sharp.....	Commerce
L. G. Hardman.....	"
W. B. Hardman.....	"
L. Sanders.....	"
J. C. Verner.....	"
M. F. Nelms.....	"
O. E. Shankle.....	"
F. M. Hubbard.....	"
L. C. Allen.....	Hoschton
W. C. Kennedy.....	Talmo
C. O. Brock.....	Jefferson
J. B. Pendergrass.....	"
J. C. Bennett.....	"
E. M. McDonald.....	"

JASPER COUNTY.

President—C. L. Ridley.....	Hillsboro
Sec. Treas.—L. Y. Pittard.....	Monticello
F. S. Belcher.....	Monticello
L. M. Ellis—R.F.D.....	"
L. Y. Pittard.....	"
C. L. Ridley.....	Hillsboro
J. H. Bullard.....	Matchen
W. M. Bullard.....	Monticello
J. V. Davis.....	"

JEFFERSON COUNTY.

President—	
Sec. Treas.—	
W. B. Holmes.....	Wadley
E. H. Hutchings.....	Linton

JENKINS COUNTY.

President—L. J. Belt.....	Millen
Sec. Treas.—Q. A. Mulkey.....	Millen
L. J. Belt.....	Millen
R. Y. Lane.....	"
C. Thompson.....	"
J. L. Kirkendol.....	"
Q. A. Mulkey.....	"
H. A. Jones.....	"
M. E. Perkins.....	"

JONES COUNTY.

President—B. L. White.....	Round Oak
Sec. Treas.—P. R. Chambliss.....	Gray
B. L. White.....	Round Oak
R. B. Barron.....	Gray
P. R. Chambliss.....	Gray
J. H. Riley.....	Haddock

LAURENS COUNTY.

President—Sidney Walker.....	Dublin
Sec. Treas.—R. J. Chappell.....	Dudley
Sidney Walker.....	Dublin
J. J. Barton.....	"
J. L. Weddington.....	"
E. B. Claxton.....	"
W. R. Brigham.....	"
W. M. Puckett.....	Montrose
R. J. Chappell.....	Dudley
J. E. New.....	Dexter
T. E. Blackshear.....	Dublin
W. E. Williams.....	Rockledge
J. H. Duggan—R.F.D.1.....	Irvinton

LINCOLN COUNTY.

President—	
Sec. Treas.—C. E. Chiatt.....	Double Branches
C. E. Chiatt.....	Double Branches
W. B. Crawford.....	Lincolnton

LOWNDES COUNTY.

President—P. C. Quarterman.....	Valdosta
Sec. Treas.—I. A. Thomas.....	"

A. G. Little.....	Valdosta
A. Griffin.....	"
J. M. Smith.....	"
F. H. Thomas.....	"
J. A. Thomas.....	"
D. W. Freeman.....	"
P. C. Quarterman.....	"
Frank Bird.....	"
J. F. Mixon.....	"
J. P. Prescott.....	Lake Park
T. E. Pennington.....	Naylor
G. O. Allen.....	Fargo
E. P. Quillian.....	Valdosta
V. F. Carey.....	Madison, Fla.
J. C. Pate.....	Valdosta

MACON COUNTY.

President—	
Sec. Treas.—	
C. H. Richardson.....	Montezuma
Fred M. Mullino.....	Montezuma
Chas. A. Greer.....	Oglethorpe

MADISON COUNTY.

President—G. W. Westbrook.....	Ila
Sec. Treas.—J. L. Baker.....	Carlton
W. D. Gholston.....	Danielsville
W. R. McCoy.....	Danielsville
L. E. Roper.....	Comer
H. H. Hampton.....	Colbert
J. L. Baker.....	Carlton
G. W. Westbrook.....	Ila
R. J. Westbrook.....	Ila
Dewitt T. Payne—R.F.D.....	Danielsville
S. B. Little.....	Colbert

MARION COUNTY.

President—	
Sec. Treas.—	
R. R. McMichael.....	Buena Vista

MERIWETHER COUNTY.

Sec. Treas.—	
Sec. Treas.—F. P. Norman.....	Greenville
John W. Pinkston.....	Greenville
R. B. Gilbert.....	"
F. P. Norman.....	"
E. L. Baker.....	Columbus (Muscogee)

MITCHELL COUNTY.

President—J. L. Brown.....	Camilla
Sec. Treas.—H. G. Fussell.....	Camilla
W. S. Hill.....	Pelham
J. R. Clements.....	Pelham
E. T. Newsom.....	Camilla
B. Williams.....	Pelham
H. G. Fussell.....	Camilla
J. M. Spence.....	Camilla
C. W. Reid.....	Pelham
J. L. Brown.....	Camilla
J. A. Garrett.....	Baconton
F. L. Lewis.....	Camilla
C. A. Stevenson.....	"
A. L. Hargrove.....	"

MONROE COUNTY.

President—	
Sec. Treas.—	
J. O. Elrod.....	Forsyth
G. L. Alexander.....	"
R. C. Goolsby.....	"

MONTGOMERY COUNTY.

President—W. M. Moses.....	Uvalda
Sec. Treas.—J. E. Hunt.....	Mt. Vernon
J. W. Palmer.....	Ailey
W. M. Moses.....	Uvalda

R. H. Mobley.....	Uvalda
J. C. Collins.....	"
J. H. Dees.....	Alston
J. E. Hunt.....	Mt. Vernon

MUSCOGEE COUNTY.

President—J. H. McDuffie.....	Columbus
Secretary—C. A. Dexter.....	Columbus
Treasurer—B. W. Allen.....	Columbus
B. W. Allen.....	Columbus
J. M. Baird.....	"
W. L. Cooke.....	"
J. M. Crook.....	"
J. I. Darby.....	"
W. N. Carter.....	"
C. A. Dexter.....	"
W. T. Gautier.....	"
B. B. Jameson.....	"
J. H. Johnson.....	"
J. H. McDuffie.....	"
T. E. Mitchell.....	"
H. S. Munroe.....	"
G. S. Murray.....	"
C. A. Peacock.....	"
J. C. Wooldridge.....	"
J. R. Youmans.....	"
W. L. DesPortes.....	"
W. L. Bullard.....	"
J. T. Moncrief.....	"
W. W. Stewart.....	"
S. E. Young.....	Midland

McDUFFIE COUNTY.

President—S. Gibson.....	Thomson
Sec. Treas.—B. F. Riley, Jr.....	Thomson
S. Gibson.....	Thomson
A. J. Matthews.....	"
B. F. Riley, Jr.....	"
D. A. Rodgers.....	Dearing

NEWTON COUNTY.

President—S. W. Everett.....	Almon
Sec. Treas.—Jno. H. Randle.....	Porterdale
J. C. Loveless.....	Porterdale
J. W. Payne—R.F.D.....	Covington
T. S. Hollyman.....	"
N. Z. Anderson.....	"
W. D. Travis.....	"
S. W. Everett.....	Almon
H. E. Ellis.....	McDonough
Jno. H. Randle.....	Porterdale

OCONEE COUNTY.

President—	
Sec. Treas.—W. M. White.....	Watkinsville
W. M. White.....	Watkinsville
J. T. Elder.....	Farmington

OCMULGEE SOCIETY.

President—A. A. Smith.....	Hawkinsville
Sec. Treas.—R. G. Stone.....	Hawkinsville
T. D. Walker, Jr.....	Cochran
W. H. Pirkle.....	Cochran
H. A. Herman.....	Sandersville
J. W. Neal.....	Scotland
R. L. Whipple.....	Cochran
J. K. Maloy.....	Milan
W. A. Mathews.....	Hawkinsville
E. C. Brown.....	Hawkinsville
A. A. Smith.....	Hawkinsville
B. M. Kennon.....	McRae
C. E. Taylor.....	Cochran
R. J. Morgan.....	Cochran
J. J. Stone.....	Hawkinsville
R. G. Stone.....	Hawkinsville

H. S. Maloy.....	Milan
E. L. Smith.....	Plainfield
O. F. Collum.....	Chancey
J. D. Herman.....	Eastman
J. C. Wall.....	Eastman

POLK COUNTY.

President—W. W. Tison.....	Cedartown
Sec. Treas.—M. S. Richardson.....	Cedartown
W. A. Chapman.....	Cedartown
H. M. Hall.....	"
J. W. Good.....	"
J. J. Cooper.....	"
C. W. Peek—R.F.D.....	"
C. V. Wood.....	"
W. G. England.....	"
W. W. Tison.....	"
J. E. Pennington.....	Esom Hill
M. S. Richardson.....	Cedartown
T. E. McBride.....	Rockmart
S. L. Whitely.....	Cedartown
J. A. Liddell.....	"

PAULDING COUNTY.

President—	
Sec. Treas.—J. I. Matthews.....	Dallas
W. O. Hitchcock.....	Dallas
T. J. Anderson.....	"
E. H. Robertson.....	"
W. H. Beall—Route 5.....	"
J. I. Matthews.....	"
E. W. Dean.....	Hiram
George Ragsdale.....	Hiram

PIKE COUNTY.

President—M. M. Head.....	Zebulon
Sec. Treas.—J. M. Anderson.....	Barnesville
W. L. Beauchamp.....	Williamson
J. C. Beauchamp.....	Williamson
M. M. Head.....	Zebulon
J. R. Graves.....	Zebulon
R. A. Mallory.....	Concord
C. F. Griffith.....	Griffin
J. M. F. Barron—R.F.D.....	Milner
D. W. Pritchett.....	Barnesville
C. H. Willis.....	"
J. A. Corry.....	"
C. E. Suggs.....	"
J. M. Anderson.....	"
J. M. Rogers.....	"

PUTNAM COUNTY.

President—V. H. Taliaferro.....	Eatonton
Sec. Treas.—S. A. Clark.....	Eatonton
S. A. Clark.....	Eatonton
E. F. Griffith.....	"
R. R. Holt.....	"
V. H. Taliaferro.....	"
J. D. Weaver.....	"
E. Y. Walker.....	Willard

RABUN COUNTY.

President—	
Sec. Treas.—L. Neville.....	Rabun Gap
L. Neville.....	Rabun Gap
J. A. Green.....	Clayton

RANDOLPH COUNTY.

President—G. Y. Moore.....	Cuthbert
Sec. Treas.—F. G. Barfield.....	Cuthbert
F. G. Barfield.....	Cuthbert
W. W. Crook.....	"
T. F. Harper.....	Coleman
F. M. Martin.....	Shellman
E. C. McCurdy.....	Shellman

G. Y. Moore.....	Cuthbert
F. S. Patterson.....	Cuthbert
F. S. Rogers.....	Coleman
J. B. Tanner.....	Benevolence
A. F. Weathers.....	Shellman

RICHMOND COUNTY.

President—R. V. Lamar.....	Augusta
Sec.-Treas.—J. C. Wright.....	Augusta
C. W. Crane.....	Augusta
J. F. Burdshaw.....	"
J. B. Wright.....	"
T. E. Oertel.....	"
J. M. Hull.....	"
Asbury Hull.....	"
W. C. Lyle.....	"
Sam. Liehtenstein.....	"
R. V. Lamar.....	"
Geo. T. Horne.....	"
A. J. Kilpatrick.....	"
Leo Reich.....	"
W. H. Harison.....	"
E. A. Wilcox.....	"
J. C. Wright.....	"
T. R. Wright.....	"
H. N. Page.....	"
W. D. Cutter.....	"
N. M. Moore.....	"
W. T. Price.....	"
W. H. Goodrich.....	"
J. H. Honan.....	"
G. A. Traylor.....	"
G. T. Bernard.....	"
H. J. Eve.....	"
J. A. Johnston.....	"
A. A. Davidson.....	"
F. N. Mulherin.....	"
S. T. R. Revell.....	Louisville (Jef)
W. A. Mulherin.....	Augusta
M. S. Levy.....	"
C. J. Montgomery.....	"
W. W. Battey.....	"
R. I. Bryson.....	"
W. C. Kellogg.....	"
A. J. Deas.....	"
E. P. Rice.....	"
T. G. Kershaw.....	"
C. I. Bryans.....	"
J. R. Littleton.....	"
H. W. Shaw.....	"
W. H. Doughty, Jr.....	"
H. M. Michel.....	"
T. D. Coleman.....	"
E. E. Murphey.....	"
J. M. Caldwell.....	"
P. P. Comey.....	"
W. R. Houston.....	"
K. W. Milligan.....	"
H. J. Baker.....	"
S. J. Lewis.....	"
A. C. Wade.....	"
J. R. Robertson.....	"
W. J. Cranston.....	"

SPALDING COUNTY.

President—	
Sec.-Treas.—W. H. Austin.....	Griffin
T. E. Drewry.....	Griffin
A. H. Fry.....	"
J. M. Thomas.....	"
Webb Conn.....	Sunnyside
W. H. Austin.....	Griffin
E. B. Anthony.....	"
T. J. Nunnally.....	"
J. R. Anthony.....	"
C. L. Tucker.....	"

M. F. Carson.....	Griffin
M. B. Drewry.....	"

STEPHENS COUNTY.

President—J. E. D. Isbell.....	Toccoa
Sec.-Treas.—C. L. Ayers.....	Toccoa
W. L. McBeth.....	Avalon
John H. Terrell.....	Toccoa
John Edge.....	"
Jeff Davis.....	"
T. C. Clodfelter.....	Martin
W. H. Parker.....	Mize
Jas. H. Crawford.....	Martin
J. E. D. Isbell.....	Toccoa
C. L. Ayers.....	"

STEWART-WEBSTER COUNTY.

President—W. F. McCurdy.....	Richland
Sec.-Treas.—M. Walton.....	Lumpkin
W. F. McCurdy.....	Richland
G. G. Lunsford.....	Weston
M. Walton.....	Lumpkin
R. L. Grier.....	Lumpkin
J. H. Foster.....	Preston
J. M. Kenyon.....	Richland
J. F. Lunsford.....	Preston
Hubert Rawviser.....	Omaha
W. F. Walker.....	Preston
C. S. Lynch.....	Lumpkin
A. S. Boyett—R. F. D.....	Buena Vista
A. G. Fort.....	Atlanta
W. S. Armor.....	Renfroes

SUMTER COUNTY.

President—	
Sec.-Treas—	
B. T. Wise.....	Plains
R. E. Cato.....	Americus
H. T. Simpson.....	Smithville
S. P. Wise.....	Plains
F. L. Cato.....	Americus
J. T. Stukes.....	Americus
J. C. Logan.....	Plains
B. L. Bridges.....	Ellaville
L. F. Grubbs.....	Americus
J. R. Statham.....	Americus
E. C. Harris.....	Andersonville
J. R. Jordan.....	Ellaville
A. J. Kemp.....	Americus

TALIAFERRO COUNTY.

Sec.-Treas.—	
President—	
John A. Rhodes.....	Crawfordville
A. C. Davidson.....	Sharon
L. R. Brown.....	Sharon

TATTNALL-EVANS COUNTY.

President—B. E. Miller.....	Claxton
Sec.-Treas.—L. A. DeLoach.....	Glennville
O. L. Alexander.....	Reidsville
H. Bowen.....	Claxton
B. E. Daniel.....	Claxton
L. A. DeLoach.....	Glennville
G. W. Elarbee.....	Daisy
T. M. Edwards.....	Daisy
J. C. Harris.....	Collins
J. M. Hughes.....	Glennville
R. D. Jones.....	Elzie
J. L. Kennedy.....	Manassas
J. J. Kennedy.....	Collins
B. E. Miller.....	Claxton
F. W. McCall.....	Reidsville
S. F. Smith.....	Glennville
G. W. Tootle.....	Glennville

C. B. Walling.....	Collins
J. J. Watkins.....	Lew
L. V. Strickland.....	Cobtown
S. T. Ellis.....	Hagan
I. G. Moore.....	Cobtown

TAYLOR COUNTY.

President—	
Sec.-Treas.—	
S. H. Bryan.....	Reynolds
T. G. Turk.....	Reynolds
R. C. Montgomery.....	Butler

TERRELL COUNTY.

President—	
Sec.-Treas.—L. Lamar.....	Dawson
Guy Chappell.....	Dawson
J. G. Dean.....	"
J. H. Lewis.....	"
Lucius Lamar.....	"
Logan Thomas—R.F.D.....	"
J. T. Arnold.....	Parrott

THOMAS COUNTY.

President—J. N. Izler.....	Meigs
Sec.-Treas.—S. L. Cheshire.....	Thomasville
J. N. Isler.....	Meigs
Harry Ainsworth.....	Thomasville
C. H. Ferguson.....	Thomasville
D. Q. Dallas.....	Pavo
W. W. Jarrell.....	Thomasville
A. D. Little.....	"
J. B. Palmer.....	"
S. E. Sanchez.....	Barwick
H. A. Vann.....	Boston
W. B. Watkins.....	Metcalf
A. P. Taylor.....	Thomasville
L. L. Lundy.....	Barwick
J. B. Threat.....	Pavo
J. W. L. Brannon.....	Pavo
S. L. Cheshire.....	Thomasville
John Biggs.....	Pavo
B. F. Hamrick.....	Metcalf

TIFT COUNTY.

President—J. M. Price.....	Tifton
Sec.-Treas.—V. F. Dinsmore.....	Tifton
W. H. Hendricks.....	Tifton
N. Peterson.....	"
W. E. Tyson.....	Chula
G. W. Julien.....	Tifton
L. A. Baker.....	"
V. F. Dinsmore.....	"
W. T. Smith.....	"
C. B. Welch.....	"
Irwin Willis.....	Omega
J. M. Price.....	Tifton

TOOMBS COUNTY.

President—	
Sec.-Treas.—F. S. Pike.....	Lyons
T. C. Thompson.....	Vidalia
W. W. Odom.....	Lyons
L. L. Moye.....	Vidalia
Lee Darby.....	"
W. A. Harrington.....	"
W. F. Peacock.....	"
Jas. M. Meadows.....	"
I. E. Aaron.....	Lyons
E. P. Bomar.....	Lyons
M. L. Currie.....	Vidalia
F. S. Pike.....	Lyons

TRI COUNTY.

President—	
Sec.-Treas.—J. G. Standifer.....	Blakely

J. H. Crozier.....	Cedar Springs
B. T. Johnson.....	Bluffton
W. B. Standifer.....	Blakely
J. G. Standifer.....	"
P. H. Fitzgerald.....	"
W. O. Sheppard.....	"
J. C. Stewart.....	Leary
C. K. Sharp.....	Arlington
P. H. Keaton.....	Damascus
W. J. Jennings.....	Blakely
W. E. Saunders.....	Arlington
W. C. Hays.....	Colquitt
J. P. Cook.....	Colquitt
H. L. Carroll.....	Babeock
W. H. Quillian.....	Arlington
P. C. Simmons.....	Arlington
J. S. Beard.....	Edison
J. L. Cheshire.....	Damascus
C. O. Tye.....	Edison
C. J. Jenkins.....	Edison
E. M. Stokes.....	Jakin
B. C. Bird.....	Colquitt
E. C. Smith.....	Jakin

TROUPE COUNTY.

President—	
Sec.-Treas.—D. E. Morgan.....	LaGrange
Hugh McCullough.....	West Point
C. O. Williams.....	"
W. R. McCall.....	LaGrange
E. M. Campbell.....	"
W. H. Clark.....	"
H. W. Terrell.....	"
W. W. Rutland.....	"
R. A. Justice.....	"
W. E. Morgan.....	"
F. M. Ridley, Sr.....	"
F. M. Ridley, Jr.....	"
H. R. Slack.....	"
D. E. Morgan.....	"
J. E. Lane.....	"
J. H. Horsley.....	West Point
Rancee O'Neal.....	"
James Poer.....	"
T. G. Gauntt.....	"
John Banks.....	LaGrange
R. H. Jenkins.....	Hogansville
T. W. Taylor.....	West Point

TURNER COUNTY.

President—	
Sec.-Treas.—J. H. Baxter.....	Ashburn
W. L. Story.....	Ashburn
J. H. Baxter.....	"
W. J. Turner.....	"
G. R. Luke.....	"
R. P. Adams.....	"
H. M. Bellflower.....	Sycamore
J. W. Dickson.....	Rebecca
H. W. Harris.....	Sycamore
W. A. Harrison—R.F.D.....	Sycamore

TWIGGS COUNTY.

President—	
Sec.-Treas.—	
I. G. Slappy.....	Jeffersonville
Mark H. O'Daniel.....	Jeffersonville

UPSON COUNTY.

President—	
Sec.-Treas.—	
A. H. Black.....	Thomaston

WALKER COUNTY.

President—J. M. Underwood.....	LaFayette
Sec.-Treas.—J. H. Hammond.....	LaFayette
J. M. Underwood.....	LaFayette

S. W. Fariss.....	La Fayette
Robt. M. Coulter.....	"
J. H. Hammond.....	"
R. E. Talley—R.F.D.....	"
Wm. H. Hendersen.....	Rossville
J. P. Hunter.....	Kensington
W. D. Rogers.....	Kensington
H. M. Barker.....	Flintstone
J. A. Shields.....	Villanow
E. M. Jennings.....	Menlo
G. E. Martin.....	Menlo
W. J. Bryant.....	Summerville
G. P. Willbanks.....	Rossville
J. S. Alsobrook.....	Rossville
D. C. Alsobrook.....	Chickamauga
J. P. McWilliams—R.F.D.....	La Fayette
M. W. Murphey.....	Ringgold
D. G. Elder.....	Chickamauga
M. M. Crowder—R.F.D.....	Kensington
Jas. L. McKenzie.....	Pittsburg

WALTON COUNTY.

President—	
Sec. Treas.—	
J. B. H. Day.....	Social Circle
G. P. Hurst.....	Monroe
J. W. Smith.....	Monroe
I. N. B. Spence.....	Social Circle

WARE COUNTY.

President—J. J. Beaton.....	Wayercross
Sec. Treas.—R. C. Dodson.....	Wayercross
R. P. Izlar.....	Wayercross
J. L. Walker.....	"
W. P. Williams.....	Blackshear
J. H. O'Quinn.....	Patterson
W. R. Moore.....	Blackshear
F. C. Folks.....	Wayercross
J. J. Beaton.....	"
D. M. Bradley.....	"
T. E. Oden.....	Blackshear
G. P. Folks, Hon.....	Wayercross
A. Fleming.....	"
H. J. Carswell.....	"
J. E. W. Smith, Hon.—R.F.D.....	"
J. H. Latimer.....	"
W. M. Folks.....	"
D. W. F. Maloy.....	Alma
W. F. Revis.....	Homerville
P. P. Lane.....	Wayercross
B. H. Minchew.....	"
J. W. Oden.....	Blackshear
G. T. Hendry.....	Blackshear
S. A. Kirkland.....	Zirkle
R. C. Dodson.....	Wayercross
A. B. Mason.....	"
E. B. Mitchell.....	"
J. P. Wilson, Hon.....	"
G. N. MacDonnell.....	"
S. A. Alexander.....	"
R. C. Walker.....	"
Andrew Stewart.....	Bristol
Dallas Williams.....	Folkston
T. P. Reville.....	Folkston
P. T. Waters.....	St. George
Lee Howard.....	Wayercross

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THE NEED OF BETTER RURAL SANITATION.*

L. C. Allen, M.D., Hoschton, Ga.

Fulton, of the Maryland state board of health, has made some studies in the statistics of typhoid fever which show that typhoid is today a rural disease. According to Dr. Fulton, "the danger of getting typhoid fever increases in direct ratio to the distance one travels from the big cities." He has studied the returns from twenty states and 400 counties, and he finds that the farther you go from the large cities the more typhoid you find. He attributes this difference to the different methods used in the disposal of human excrement. In this opinion he is doubtless correct.

Not many years ago everybody thought that the country was a more healthful place in which to live than was the city. It used to be thought that when the health of a city dweller became impaired one of the best things that he could do was to "go to the country," where he could get fresh air and pure water, wholesome food, and salubrious

surroundings generally. And a few decades ago this idea was probably correct. Because a few decades ago the sanitary conditions of our cities were quite different from what we find them today. Then wells and surface privies could be seen all over the city, often in close proximity to each other, and to the kitchen. We used to be accustomed to these conditions. The work of the city health department was limited to the suppression of epidemics of smallpox, and other contagious diseases. But today conditions are changed. Today the protection of the health of the people of a city is considered as much a function of a municipality as is the policing of the city, fire protection, or the education of the children. So the Health Departments of our large cities today are important departments of city government, and they are active and aggressive in protecting the health of the city inhabitants. They inspect the milk, see to it that the water supply is free from contamination, isolate contagious diseases, inspect the school children, carefully guard the food supply, and abolish breeding places for flies and mosquitoes. But, in addition to all this, the one great advantage which the city has over rural communities is the well-nigh perfect manner in which gar-

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

bage, including human excrement, is disposed of in the city. The cities, it is true, still have their dirty places, and their problems. But they have men on the job of cleaning up the dirty places and solving the problems. In every city much activity is being displayed in this work.

How different in the country! While these wonderful improvements have been taking place in the cities, conditions in the small towns, villages and rural communities have been growing worse. This is due largely to the greatly increased population in rural communities. Formerly when our country sections were sparsely populated the danger from soil and water pollution was small. Now our rural communities, in many counties, are very thickly settled. The more people living on a square mile, the more human excrement is deposited on the soil. As yet sanitary privies in the country are practically unknown. We hear of them, but we never see them. Few sanitary precautions of any kind looking toward the protection of the public health are taken. Human excrement is scattered broadcast all over the land. This means the spread of intestinal parasites transmitted through the soil. It means pollution of the wells and springs. The more frequent the water is contaminated, the more often typhoid occurs. The more disease, the more opportunities for the water to become polluted. Thus the vicious circle goes on.

Again, the greater the population on a given area, the more domestic animals are kept. This means more barns and stables, more breeding places for flies, and more sickness by diseases carried by flies.

Most cities have taken their water-supply under their absolute ownership and control, mere supervision under privately-owned water-supply systems having proved insufficient. Under present methods water-supplies have generally ceased to be sources of typhoid fever. Thus one of the chief causes of typhoid in cities has been eliminated. While all cities now try to see to it that the milk sold to the people is of good quality, pure and free from disease germs, a few cities, like New York and Philadelphia, require that all milk supplies be pasteurized under municipal supervision. Thus another source of typhoid in cities has been removed, as well as a common source of diphtheria, scarlet fever and summer diarrhoea of children. Raw milk frequently carries the germs of all of these diseases. These safeguards the rural

population, including towns and villages, do not have. When you motor out into the country some fine day, and stop to drink water at the well of some farm house, and eat your lunch at some village tavern you incur greater risk of getting some disease than you do when you stop in Macon, Savannah or Atlanta. This is especially true of typhoid fever.

The average countryman with consumption considers himself perfectly harmless. His independent spirit, admirable under most circumstances, rebels against restraint, which he considers unnecessary. While advised by his conscientious physician, he still persists in disseminating his several billion bacilli per day by ejaculating his sputum in places where it will have a chance to dry, and become pulverized, and be inhaled by others as bacilliferous dust.

In rural communities people with communicable diseases are not always isolated. Kind-hearted neighbors visit the sick often. Indeed, when a man become ill in the country every neighbor feels that he has failed in his duty to his friend unless he makes frequent visits to his bedside. This practice is common, not only among the men, but among the women and young people also. In this way diseases are spread in a fearful manner.

Bad housing, over-crowding and under-feeding exist, not alone in the cities, as many would have us believe, but these evils are common in the country also. It is not at all uncommon to see families of 8 to 12 members living in a cottage of one to three rooms. Sometimes three or four sleep in one bed, with no attention whatever given to ventilation.

Much has been said about "the child of the cotton mill." Great newspapers have championed his cause, and editors have written countless columns in his behalf. Many good women have devoted years of earnest labor to his betterment; distinguished authors have written books about him; orators have expatiated upon his sad plight; legislators have passed laws for the protection of this "child of the cotton mill." This is all well, perhaps. But what, may I presume to ask, is being done for the child of the cotton field? Who is bothering himself about this ragged, sunburnt child "with the hoe"? What are your big newspapers, and orators, and club-women, and legislators doing to ameliorate the conditions of the cropper's

little girl, who, in shabby clothes, and with heavy hoe, chops cotton beneath the rays of the hot summer's sun from "early morn till dewy eve"? Not only are her hours long and her work exhaustive, but her food is cheap and poorly cooked. She often lives in an unshaded hut in the cotton field, and at night she rests her tired and dirty body on a hard and dirty bed. She goes to school but little, sometimes not at all. There were 1,793 children of school age in Jackson County last year that were not enrolled at school at all. These are cotton-field children. In the entire State last year there were 265,000 children of school age that did not attend school a single day.

Our rural school-houses are commonly insanitary, uncomfortable, badly planned, poorly lighted, improperly ventilated, and in no way suited to facilitate and promote the work there to be performed. It is the plain duty of the State to remedy these shortcomings.

Prof. M. L. Duggan, Rural School Agent, from our State Department of Education, has made some careful surveys of school conditions in several of our rural counties in different parts of the state, and his reports are very instructive. Nearly all the school-houses he visited consist of one room, a few have two rooms. Most of them were badly constructed, and ill-lighted. At none of the schools was there a sanitary privy; **at nearly half of them there was no privy at all.** This means the spread of hookworm, and other diseases. It means "distress for the girls, and shame for the lady teachers." These uncomfortable one-room, one-teacher schools, without maps, charts, globes, or library, offer the only opportunity these cotton-field children have of getting an education. When these children go to school they carry a lunch, which too often consists only of bacon and bread, with a little syrup, and occasionally a hard-boiled egg. The meat is generally fried, and the lunch is put up hot in a tin bucket, and on opening at lunch-time has a very disagreeable odor, often driving away the appetite of a delicate child. The meat is soft and soggy, and the bread is in about the same condition. Every experienced physician here knows that while these very wretched conditions are not universal among country people, they are very, very common. The conditions of the "cotton mill child" is doubtless bad enough, but in what respect is the child of the cotton patch any better off?

Nobody understands these conditions like the country doctor. He knows and understands thoroughly.

And what of the rural mother, the hard-worked farmer's wife. What is being done to make her life worth while, I shall not detail her daily duties. You are familiar with them. You know too well that these duties are monotonous and irksome; that they enslave her, and that she seldom gets a "day off." Is it any wonder that so many farmers' wives become aged early in life? Is it any wonder that with much child-bearing, never-ending drudgery, unvarying fare, and little recreation, her health early gives way, her youth and strength exhausted, and her nervous system wrecked? And in this connection, gentlemen, I desire to make a statement that I hope you will ponder well. It is this: The treatment and cure of many of your gynecological cases is simply and primarily a matter of hygiene. Don't imagine you can cure these cases solely with treatment given per vagina. Tampons and applications will not replenish an empty larder. Neither can any surgical operation restore to normal health a woman whose vitality is exhausted by exacting care, much child-bearing, and hard living, and whose environment after the operation is to remain the same as before. Better first change the environment, if you can, then it will often happen that the need of an operation will be less apparent.

While most cities are able to abolish mosquito-breeding places in or near the city, and thus eliminate from the city the source of malaria, in rural communities the cost of draining swamps and lagoons is prohibitive. And the people do not yet realize the importance of screening. Hence malaria continues to spread, and cause much sickness and physical inefficiency among country people.

City children have the benefit of medical inspection of schools. Country children are still denied this blessing.

There are in the state of Georgia just about one million negroes. A very large per cent of these people are afflicted with communicable diseases, such as syphilis, gonorrhoea, tuberculosis. Many of them harbor the *plasmodium malariae*, and not a few carry the *bacillus typhosus*. They habitually use any convenient, secluded spot, or wooded place, for their privacy, and thus the vilest of human waste is distributed about the farm, which the rains carry to the springs and wells. The family washing, and often that

of some white family, is always done near the well or spring, and the dirty water poured out near the water-supply. Little precaution is taken to protect the wells and springs from contamination with surface drainage.

Negroes are very careless about contagious diseases, allowing members of the family to eat and drink after persons afflicted with tuberculosis, and to sleep with such persons. They often roam the country, even going to church or to town while suffering with measles or smallpox. Some one has said that "the degradation of the negro is the white man's sin." But be that as it may, it is certainly true that his uplift is the white man's problem. To say the negro is bad, does not mend matters. It is our problem, our duty, our necessity to make him better. Every influence that helps to increase the negro's efficiency, everything that encourages him to become self-supporting, and helps to make of him a better citizen lessens "the white man's burden." Meantime, the white population needs protection from his carelessness.

Public health work is in its infancy. Its importance has not yet penetrated the popular mind. Only physicians and leading sanitarians appreciate, at present, its great value. Indeed, it is doubtful if any of us fully realize its enormous social and economic possibilities. Its importance will be appreciated in the future, and our children will give twenty times as much attention to it as we do now.

In what manner can we proceed so as to be successful in bringing about better sanitary conditions in Georgia? I can see only one way. We must bring to our aid the force of public opinion. We shall fail if we move along any other route than the one of stimulating and crystallizing public opinion. In other words, we must first educate the public to the need of better sanitation. But, as my friend, Dr. Clark here, said last year, "the poor people do not want to be educated." But this satisfied state of mind is itself due to ignorance. It is probably true that the majority of country people do not want any better health protection than they now have—unless it comes free. They prefer to be sick, and to pay doctor bills and funeral expenses rather than to pay taxes. This is because they have never been shown the need of public health work, or of full-time health officers. Such offices appear to them to be sinecures, and such work a useless waste of their hard-earned tax money.

In this democratic country of ours public opinion governs everything. Each one of us, from the Governor down to the humblest citizen, is under the absolute necessity of obeying its mandates, whether we want to do so or not. The most despotic government on earth, with its armies marching to victory, is very anxious to win and hold the approval of public opinion. Public opinion is often wrong, but it has its way, nevertheless. No popular reform, neither sanitary nor any other, can be brought about without its approval. No remedial legislation will be enacted, or if enacted, enforced, until public opinion demands and supports it. Our first business then, is to show the people the necessity for better sanitation. It is the only thing we can do. The authorities in the several counties dare not increase the tax rate to the amount necessary to put in operation expensive health work because the rural taxpayer, who is also a voter, will not stand for it. It ought not to be so, but it is so. A few counties may be ready to take up this work, but not many. We must thoroughly understand that public opinion, and public opinion alone, is the source of all effective legislation. Education of public opinion is always the necessary first step in any movement for reform. This is especially true in public health matters. People are ignorant concerning the causes of disease. Germs are invisible. If they were as large as rattlesnakes we would have no trouble in getting public support in the work of their eradication.

One valuable means of demonstrating to the people the economic and personal advantages of the practical application of sanitary knowledge to the prevention of disease is the collecting and recording of vital statistics. Vital statistics is a means of gaining a knowledge of the sanitary conditions of a community—a county, city or state. Once obtained, this knowledge is valuable for many and various purposes. It is particularly valuable in public health work as a means of attracting public attention, and of moulding public opinion. I have always thought that vital statistics should come before we attempt to enforce any very radical health measures. Not that vital statistics is more important than public health work, but because it will aid us very greatly in getting the latter. It seems to me that this is the logical way to proceed.

In our campaign for better health condi-

tions we shall gain momentum slowly if we confine our activities to medical societies, and to professional publications. Publicity is absolutely essential. We are under the necessity of reaching the people in some way. To do so we should use every legitimate means at our command. The country newspapers, the public schools and the pulpit are tremendous forces working for the best interests of the people in every community. We should use these agencies to advance our ends in serving humanity. While thousands of our fellow citizens are being taken away annually by preventable disease, and thousands of others are made to suffer, and other thousands still are rendered physically inefficient, with low wage-earning capacity, shall we stand aside, like "a certain priest" and the "Levite," hesitating on account of quibbles about ethics? Or shall we follow the example of the Samaritan and "have compassion" on these afflicted brothers, pour oil and wine on their wounds and take care of them.

A broad campaign of publicity on the subject of rural sanitation is greatly needed in this state today, that the problems of the country doctor, and the agricultural population may be brought to the forefront. Intelligent people everywhere should have their attention directed to these very important public questions. The city health problems are well taken care of. They are discussed on the front pages of the daily papers. But the sanitary conditions of rural communities are seldom mentioned by any one except our friend, Dr. Fort, and his assistants in their hookworm campaign. Dr. Fort has done the state an invaluable service, for which he deserves our warmest thanks.

Private physicians should take more interest in our State Health Department. It is really your department. You should assist in widening the scope of its work, and in making it more valuable. There should be close friendship and co-operation between this department and the physicians throughout the State. Every person who has typhoid fever should have his feces examined three months after recovery to see if he still harbors the bacillus typhosus. The State Board should do this work, and, of course, the State should appropriate sufficient funds to cover all such work.

If the medical profession desires to occupy a strong position before the public, nothing, in my opinion, will contribute to this end more than for the rank and file to become

practically interested in public health questions.

DISCUSSION ON THE PAPER OF DR. ALLEN.

DR. T. J. MACARTHUR, Cordele: This is too valuable a paper and too important a subject to pass without some discussion. Dr. Allen has very ably presented to us the conditions that country physicians have seen all their professional life. What is to be done about it, and who must be the leaders in disseminating this information? What would be the effect in a few years from today if every physician in this country and this state was availing himself of every opportunity just presented to disseminate such information as Dr. Allen has presented today? If we all feel the responsibility as Dr. Allen does, we would not only avail ourselves of the opportunity to teach such things, but we would seize the opportunity, and I would make the statement that it is the duty of every physician to be a teacher of these things. Every school, every church, every picnic ground, every public gathering ought to be given an opportunity to hear such a paper as Dr. Allen has presented to us today. I insist it is the duty of organized medicine in this state and organized medicine everywhere to teach preventive medicine. It is not only the duty of this Association, but it is the duty of every local medical society and of every county society to offer to the citizens and the church and to all public gatherings, women's clubs, picnics, lectures upon this and other similar subjects.

I want to ask every man here when he returns home to take the matter up with his local society pass, a resolution as we did in our county medical society and in this resolution offer lecturers to the churches, to the schools, picnics, women's clubs, and every other public gathering. If every man felt the responsibility of this work as Dr. Allen does and goes home determined to help to disseminate this knowledge, there will be considerable improvement in conditions twelve months from now.

DR. A. G. FORT, Atlanta: We have heard during the last few years many expositions of facts, but as yet we have had no practical method of meeting these facts or correcting the conditions presented to us.

In studying these different phases of sani-

tation we must realize that we are to change absolutely the habits of the people before we can change the conditions as they now exist in the rural districts of our state. In order to change the habits of our people we must begin with the children, otherwise we will absolutely fail. I believe that in connection with the furthering of health laws which we now have, making operative the laws which we now have, we should introduce into the schools certain books and certain tracts which will teach the children to read and let them read something which is of real value from a health standpoint. Why teach them facts of sanitation in teaching them to read. That question would naturally arise, namely, the majority of our children leave the schools in our state after the third grade, and if we are to reach them with sanitary knowledge we must reach them in the first three grades, or we will lose a large proportion of those whom we must reach. Furthermore, those who leave the school at the end of the third grade, who would be the hardest to reach, need the teaching or instruction work. Therefore, we must put it in elementary form. If this Association or some representative would prepare a tract and put it into the school system of our state, I believe the educators of the state would accept it kindly, and through that agency lay the fundamental basis for education of the child.

There has been quite a change in the sanitary conditions in Georgia in the last five years, not so much in the homes as at the schools. In Tift County there was not a sanitary toilet at the rural school five years ago. Today every white schoolhouse in that county has a toilet of some kind and most of them, probably sixty per cent. of them, have efficient toilets. In Hancock County we found the same condition of affairs, and by building a privy at the school and showing the children what it means and teaching them how to keep it clean, when they grow up and have homes of their own they will have these things. It is along these lines that we are to fight out the sanitary conditions for betterment in Georgia.

DR. THEODORE TOEPEL, Atlanta: This subject is so interesting to me that I can not refrain from taking part in it. The statistics which have been brought forward by the essayist are of great importance to every practitioner.

As to proper hygiene, I notice that certain

communities are beginning to pride themselves on the fact of the beautiful schoolhouses that they are erecting. These communities have spent a great deal of money on expensive brick buildings, with blast furnaces sending in and taking out the air. A ventilating system has been undertaken at very great expense. In contrast to that, I want to say that the communities that first tried it are now taking the opposite view. The most expert schoolhouse engineers in this country—I mention those in Chicago, Boston and New York—have evidence to that effect, and they have declared they have not found a remedy as to proper ventilation of the schoolhouse, and after spending \$50,000 as a minimum expense to ventilate a schoolhouse properly they have not as yet solved the problem. We in the South ought to profit by their costly experiment and not try to imitate and copy failures which they have made, and we should strive to build simpler schoolhouses, not including artificial heating systems. We do not have to spend money on artificial heating systems and on expensive school buildings.

I have read of the wonderful open-air treatment in North Dakota. We should advocate the open system in our public schools, and instead of paying so much money for the erection of school buildings we should insist upon putting a good deal of this money into large tracts of land surrounding the schoolhouses. Then the children would be benefited greatly. The open-air school system seems settled definitely as proven by statistics showing that the physical child is greatly benefited thereby.

In regard to the teaching of hygiene, I want to say one thing in emphasis of what Dr. Fort has said, that in order to improve conditions it is necessary to inculcate that knowledge through the children to the parents. In Atlanta hygiene was introduced ten years ago, and the last time a change was made in books we had a little book on hygiene and sanitation published by Ritchie & Cordwell. This little book is now in the hands of 20,000 school children, white and black, and the parents are reading it as industriously as the children. The principles of hygiene and sanitation given in that book are taught in the schoolrooms by the teachers.

DR. ALLEN (closing): I do not know that I can do any better than to read a few

more paragraphs of my paper which I did not read on account of the time limit.

Dr. Fort made a valuable suggestion in teaching little children by having them practice sanitation at the schools, and I want to say, I think those of you who have not examined lately the sanitary primer used in the public schools of the state, will find it advantageous to read it yourselves, and also to advise your patrons to read the same book. It is a very valuable treatise on practical hygiene and sanitation.

Dr. McArthur made a most practical and excellent suggestion along the line of disseminating knowledge. The public school, the pulpit, and the rural press are factors working for the best interests of the people in every community, and we should strive to make all of these agencies of the greatest possible usefulness. The state should appropriate money to cover the expense. The regular profession is the only source from which the public can receive this valuable kind of information. The osteopaths, the hydropaths and Christian Scientists, and all other humbugs and exclusiveists, have nothing to offer the people along this line—not a solitary thing. If we want to stand straight before the people, it is essential for us to take an active interest in these public health questions.

ELECTION OF HEALTH COMMISSIONER FOR FLOYD COUNTY.

The Health Board of Floyd County has perfected all necessary plans to place a health commissioner at work in this county not later than November 1, 1915. The salary of this official will be not less than \$1,800, nor greater than \$2,400 per annum. September 15, 1915, is the date set to elect an applicant to fill this important position. The term of office will be four years. Any doctor of the state may become eligible for this office by taking an examination under the supervision of the Health Board of Georgia. Applications for the office must be filed with the chairman of the Floyd County Health Board not later than September 5, 1915.

JOHN C. KING,

Chairman Floyd County Health Board.

An advertisement in The Journal of the Medical Association of Georgia will bring results. Rates sent on request.

INFLUENCE OF SCHOOL LIFE ON THE PHYSICAL CHILD.*

Theodore Toepel, M.D., 929-930 Candler Building, Atlanta, Ga.

As an introduction to my paper it may be interesting to refer to the physiological development of the normal child, limiting myself as much as possible to the school age.

Weight: According to Bowditch, observations were made upon children of American parentage in the public schools of Boston upon 4,327 boys and 3,681 girls. The slowest gain in weight was found to be from the 6th to the 8th year, when it is about four pounds a year. From the 8th to the 11th year it rises to about six pounds a year. Up to the 11th year the two sexes gain in about the same ratio. From the 11th to the 13th year the girls gain much more rapidly, passing the boys for the first time and maintaining this lead until the 15th year, where again the boys pass them.

Height: From the 6th to the 11th year the increase in height is quite uniform in both sexes, it being between two and three inches a year. After the 11th year in girls and the 12th in boys the growth is much more rapid. In height the girls exceed the boys at the 12th and 13th year for the only time in their growth.

Increase in girth is much less rapid than in length until about 14. We find in the study of the child in the grammar grades, that is, from 11 to 14 years of age, that the short and small trunk with the relatively long legs is a source of weakness at this time. The vital organs in the trunk have not kept pace with the legs in their rate of growth. Hence there is a rise in the amount of sickness throughout this period.

Growth of the Lungs: Increase is usually rapid in the boy between the ages of 6 to 10, but slackens during the next three years. There is nearly always a marked acceleration of growth at 14 and again at 16. There is little difference between the sexes until the 9th or 10th year. In the boy the capacity doubles between 10 and 16; in the girl it is far less and usually irregular. Between 5 and 10 the girl has nine-tenths of the relative capacity of the boy. Between 11 and 14 she usually falls behind rapidly. This is the period when she needs a large supply of oxygen

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

in the blood. During puberty, and probably before also, bright pupils have a constant and marked superiority in this respect. The importance of well-oxygenated blood for vigor and efficiency of the brain, as well as for the general health, can not be overestimated. Physical training has its good effects on the vital capacity of the boy as well as on the girl. Gilbert ("Researches on Mental and Physical Development of School Children") observed that dull pupils have a smaller lung capacity than bright ones at all ages during the puberal period. Increased vital capacity proves beneficial to the mental as well as to the physical well-being of many weak and backward boys and girls at that period. These findings are corroborated by the results obtained in the open-air schools of Chicago. Table No. 1, 367 children. Improved, 90 per cent; not improved, 10 per cent. Discharged to regular day school, 15 per cent; discharged to sanatorium, 2 per cent. Table No. 2, weight with feeding, 285 children. Gained, 90 per cent; same, 3 per cent; lost, 6 per cent. Table No. 3, scholarship, 195 children. Gained, 67 per cent; same, 23 per cent; lost, 7 per cent.

Metabolism: During childhood the largest part of the food consumed is used in the repair of the tissues, the formation of new cells and the enlargement of those already formed. Professor Atwater tells us that the boy of 15 or 16 requires 90 per cent of the food ration of the adult engaged in moderate muscular work; the girl of the same age requires about 80 per cent. Boys at 12 and girls at 13 or 14 require 70 per cent. The child from 6 to 9 requires about 50 per cent. The young child requires about twice as much food for each pound of weight as the adult. Growth is a very expensive process and demands the combustion of a large amount of nutriment, more than is consumed by active muscular exercise. Most of our diseases are due in last analysis to malnutrition or to lack of assimilation. It is true, indeed, that "the digestive system, rather than the brain, is the foundation of all greatness." It has been convincingly demonstrated by the best authorities that a long noon recess with ample time for a warm lunch and rest and outdoor exercise helps metabolism and the quality of work all round. The single session lasting continuously for many hours and postponing, if not destroying, the noonday meal, is anything but hygienic.

Nenro Muscular System: The relation be-

tween the muscular and nervous system is exceedingly close. Every change or current in the nervous system expresses itself through some change in the muscles; and every movement of our muscles reacts upon our nervous system. In passing, it is interesting to note that in the new-born babies the muscles for mabont one-fourth of the weight, and that between birth and maturity they increase about thirty-seven-fold.

Growth of the Brain: According to Vierordt, the brain forms 12.29 per cent of the weight of the body at birth; in the adult, 2.15 per cent. It doubles its weight during the first eight or nine months, and trebles it by the end of the third year; at the end of the seventh year its weight is not very much less than at maturity.

Everywhere in the nervous system we find steadily increasing complexity. First come the simplest reflexes, then the more complex. The sensory centers mature separately, then the motor; then these become connective with one another. Thus the best and most efficient brain is not necessarily the largest and heaviest, but the one in which the largest number of the very best connections have been made in childhood.

With these facts at hand, it is forcibly impressed upon those who mould the lives of children that the most earnest and careful thought must be exercised when their conventional school life is planned for them. At present an ordinary school program looks pretty full. We have a long record of breakdowns and nervous collapses, temporary disablements and some lasting injuries. We are confronted with the question: "How can this difficulty be adjusted?" In the first place by eliminating unessential details from the curriculum, then by proper distribution of the work so that the different parts may be introduced at times when there is the least friction and resistance in the assimilating process within the brain and when there is an awakening interest. Groszmann, in his splendid work, "The Career of the Child," says: "That reading and writing are identical with 'learning' in the minds of still too many is obvious when one studies the outline of the curriculum of the ower grades. Children of 6 or 7 years of age are far-sighted, and the fine adjustment to the requirements of the printed page are directly injurious. Then there is the evident lack of muscular control in eye and hand at this stage in both reading and writing. Even the body posture

is an element in this adjustment, and if the child is forced at an early age to assume a strained position for the purpose of those finer specializations of movements as required by reading and writing in books, he may suffer in consequence. It is a notable fact that visual defects increase in number and percentage in the child's progress from the lower to higher grades in school." We all know that lateral curvature of the spine and round shoulders are of frequent occurrence in the school child; many of these cases are probably due to the relative plasticity of the bone and periods of rapid growth, accompanied by lax muscular tone, but we can not deny the fact that faulty attitudes in sitting, favored by improper school furniture, furnish a large per cent of these bone deformities. Figures show conclusively that lateral curvature and round shoulders are constantly increasing affections during school life. It is, therefore, obviously important that school children be furnished seats and desks which favor proper attitudes in sitting and writing.

The pernicious overburdening of pupils with home lessons should be wholly eliminated from the child's school life, at least from all primary grades, and when we cease to crowd large numbers in classes and no teacher is required to ever have more than forty pupils, the plan of abolishing all home lessons in grammar schools will be possible. That this requirement of home work lessens the child's opportunity for free play and rest is obvious, and teachers should be cautious and reasonable in this matter.

School physicians are coming to our aid in remedying what seem the sins of the school toward the physical child. The fact that there is a close relation between body and mind is now generally recognized, and is being more and more understood and scientifically determined. In the words of Bain, "The organ of mind is not the brain by itself; it is the brain, nerves, muscles, organs of sense and viscera." It is encouraging to note the universal adoption of the regularly appointed school physician, who assists the teacher in recognizing diseases common to children, though a simple diagnosis of common troubles of children should also be made by the class teacher herself. It is now well known among educators that mental and moral disorders and defects are often only symptoms of disease. A recent report of medical inspection of Atlanta schools is as follows: Out

of 45 white schools, number of children examined, 13,944; number normal, 8,563; number defective, 5,411; per cent defective, 32.2; number and nature of defects, malnutrition 548, anaemia 332, pediculosis 371, eye defects 616, enlarged glands 1,105, defective teeth 3,501, tonsils 1,420, nasal breathing defect 876, skin diseases 78, heart 113, lungs 94, nervous 29, ears 24, bone 18, no vaccination scar 970. Exclusions: for parasites in head 275, chicken pox 3, temperature 101-103 5, sore throats 20, lungs 13, infectious skin diseases 11, pink-eye diseases 9. This report shows that in comparison the physical conditions of school children in Atlanta, Ga., is on the average of other cities and still it is alarming. It shows again that the child at school is more susceptible to disease than at home. Though I believe the average child is better off at school than at home, yet the school must fit the child in course, methods, training and instruction. Let us not forget that in assigning work our question should always be, What and how much will best promote growth? not how much can the child endure? Power and character should be the ultimate aim in the individual.

With the necessity of careful control in infectious diseases and even the employment of rigid measures on the part of school authorities it is often found that parents, and at times even their family physicians, are disinclined to submit to the inconvenience which is caused by quarantine precaution. Careful and conscientious watching is also required in other troubles which often produce serious effects on the mental, moral and physical condition of pupils. They are, as our report shows, mainly defects of eyes, ears, nose and throat. Impaired hearing is also very often responsible for much seeming inefficiency in the schoolroom. This is frequently caused by adenoid vegetations in the nasal-pharyngeal passages.

Key, in "Schulhygienische Untersuchungen," admits and emphasizes the responsibility of school life with its confinement and overpressure for the high rate of sickness among the pupils. But he argues, with good reason, for the connection of the course of the curve of morbidity with puberal development. The curve rises until 13 or 14, which is the period of most rapid increase of height. As soon as the more rapid increase of weight begins, there is an increase of power of resistance, and the rate of morbidity sinks.

Much has been accomplished by the au-

thorities, who are shaping the principles of education and yet at its foundation, with the child as its basis, much more can be done by which the child must triumphantly survive. Permit me to suggest, in conclusion, what I would term a few remedies for conditions now existing in the child's school life which, above all, would promote its physical welfare.

A course of study, elastic and rational in form, which follows natural lines of growth, is the only one by which wholesome work is accomplished. That is, a "detailed cast-iron prescription" must make room for the course of study which has the character of an outline to be filled in, carefully planned to balance the pupil's power of application. As the hours of the day have different energy values, the work for forenoon and afternoon must differ in character. The length of instruction periods should be adjusted according to fatigue values of studies and a very clear conception as to where stimulation and exercise are needed is essential in planning a child's work. Recesses must be so distributed as to afford the greatest relief and recreation at the proper juncture.

One of the healthiest indications of bringing the child back to nature is the institution of school excursions popularly known as **wanderlust** under the direction of class teachers and physical directors. These excursions are arranged for the purpose of studying the country, plant and mineral life, and of ministering to healthful exercise.

A general appeal should be made to school authorities to recognize the great value of this feature of school life and an agitation for its universal adoption should be started.

In this gathering it is hardly necessary to dwell upon the fact that the advantageously located school building, equipped and arranged on modern lines, embraces a very important factor in the child's school life.

DISCUSSION ON THE PAPER OF DR. TOEPEL.

DR. A. A. BARGE, Newnan: The doctor has given us an interesting paper on one of the most important subjects we could discuss. I have felt for a number of years, since I have been trying to train my children, that they have been denied the necessary privileges on account of thirty minutes being allowed for dinner. I feel it is too short. We all recognize the importance of thorough-

ly masticating our food. There is no individual who practices medicine who does not realize the necessity of food being thoroughly masticated. In the town of Newton, children go home and have to return in thirty minutes, during which time they have to swallow their food rapidly, for that is what it means, and it produces a condition that is not in harmony with our views of healthful living.

One of the old physiologists, before Harvey discovered the circulation of the blood, said to his lawyer friend, "Do not eat a meal and immediately go into the consideration of an important case. If you do, the vital units will leave your stomach and go to the head and fail to aid you."

The old physiologist was correct. He realized the fact that we have no time to digest our food; that we have no time for relaxation if we must concentrate our minds upon the studies and answer any questions that are given us, because there is a physiological condition that is out of harmony with the head.

I feel that it is our duty as leaders along healthful lines to insist that we change this method.

Now, in discussing the result of the short hour with the long hour at noon and short period and the long period with master pedagogues they say they can get better results from their pupils. As the doctor has insisted, we are anxious to get better mental results to the detriment of the physical being. What will our children be if they are crippled physically to go into the world with a trained intellect and nothing to back it? They will be the prey of the white scourge. We should place ourselves on record as being opposed from a physiological standpoint to crowding too much into one session. Let us give the child time to chew and masticate its food, and give children a little time for pleasant exercises so that they may aid digestion.

DR. TOEPEL (closing): The reason that I brought this subject to the attention of the Association is that I attach great importance to the physical and proper development of the child. The medical profession nowadays does more preventive than curative work, and it is necessary that children shall be properly and well-taken care of as a part of the teaching of the medical profession to its citizens among which they are practicing.

The question comes up, do you want to

change the curriculum in the so-called school system in such a manner that you wish to make the physical child a paramount issue, or shall the curriculum revolve around the physical child? I always answer yes. The physical child must be the basis upon the making of the curriculum, and it is an asset to a city to have healthy citizens, and it is a greater asset to a city to have healthful citizens than diseased and smart children.

In regard to the double session and single session, you have patients who eat at 7 o'clock in the morning and 3 or 4 o'clock in the afternoon. You say that is wrong. It is not physiological, and still there are millions of children who are opposed to that kind of criminal treatment. They get the morning breakfast, and again a cold lunch at 3 o'clock, probably left over from the warm meal at noon until father and mother can partake of it. That is not just to our growing generation. It leads to deterioration of the nervous system, and that feature ought to be considered, and, therefore, I prepared this paper and have read it for the benefit of the medical profession.

A CONVENIENT CONSCIENCE.

John A. Patten, one of the most prominent laymen in the Methodist Episcopal Church organization, has that peculiar type of conscience possessed by some erstwhile church members that can be twisted in such a way as to permit him to engage in many shady transactions, ostensibly without a knowledge of doing wrong. The Council on Pharmacy and Chemistry has, however, furnished evidence to the effect that the nostrum known as "Wine of Cardui," made and sold by the Chattanooga Medicine Company, of which John A. Patten is a large owner, is nothing more or less than a patent medicine which is taken largely for its alcoholic effect. Inasmuch as not one of the publications of the Methodist Episcopal Church will carry advertisements of "Wine of Cardui," because the business is too dirty, too vicious and too fraudulent for their pages, the query is offered by The Journal of the American Medical Association, "Why does that church bestow on a man who makes his money through such a business some of its highest honors and dignities?"—The Journal of the Indiana State Medical Association.

THE PSYCHOSIS OF MORPHINE AND ALCOHOL; WAS THE MEDICAL PROFESSION PREPARED FOR THE HARRISON LAW?*

By Cheston King, A.B., M.D., Atlanta, Ga.

The ignorance of the profession in general concerning morphinism is so pronounced that it has left in its wake blighted lives that promised much for our nation, wrecked hopes of loving families and tragedies as dark and as deep as can be woven of the warf and woof of death.

The medical profession of the United States, a great army of scientific men, the guardians of our nation, have overlooked a most sacred trust in not having their county and State Associations to prepare for a great per cent of four million people who are addicts to such drugs, as the Harrison national enactment regulates the compounding, sale, dispensing or giving away, viz.: opium, its salts or derivatives.

A campaign of wide publicity should have been given to it and each county and city, in the United States should have made provision for the treatment of that class of poor unfortunates unable to take sanitarium or any other kind of treatment.

They are desperate in their condition, and if the number of crimes and suicides could be tabulated in six months, it would be appalling. Therefore, I believe that the Medical Profession took not the proper cognizance of what the Harrison law meant and gave no warning to a large per cent of our population who are addicts to the drug habit.

I do not believe that there is any great operative procedure today—any new discovery—that would carry to mankind as great a boon as the scientific methods and mode of procedure in obtaining results in drug cases. It can not be said that the habitues belong to that class of warped mentality and low grade individuality. For such is not the case; some of the brightest minds of the greatest personalities that ever graced this illustrious body are today bound mentally and physically, the unwilling slaves of drugs, and their more fortunate fellow physicians remark, "Well, there is nothing to him."

Therefore, let us study scientifically the ravages of drug habits and endeavor to free that large per cent of our population who

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

are in the "agonizing struggle for freedom."

An eminent physician once said: "You might as well ask me to cure the habit of lying and stealing as that of drunkenness or that of opium." The moral obliquity of mankind does not come within the range of "materia medica." Is not this feeling a stigma on the medical profession, for the morphine habitues are not the willing slaves, so generally supposed, but in the largest per cent are the victims of medical carelessness or ignorance.

According to Pouchet, 40 per cent of all the morphinists are physicians, the wives of physicians and also druggists, dentists and chemists. In fact, the Medical Gazette de Paris states that 20 per cent of mortality amongst medical men was due to morphine-mania. Say that even as low as 10 per cent of the medical profession are drug addicts; how appalling the situation.

Statistics show we have four millions of American people slaves to this drug. If the drug disease has been classed incurable, then death is a blessing as compared with a lost individuality due to a mind gone wrong.

Since 1856 when Bertrand, of Germany, used the first injection of morphine, it has had a frightful and devastating career. Dr. Burnett, in his rigorous and picturesque style, has well said: "It extinguishes the patient's mental lights and thrusts him into a tophetic crucible that would make hell a paradise and the accepted purgatory without sandles an oasis in Sahara. The patient lapses into Hades and expectorates Lucifer flames, while the phosphorescent glow of his burning brain illuminates the strand where the fire boats put to sea."

The statement we have often heard made by eminent physicians, "once a drug addict, always a drug addict," is not in accordance with latest research work, showing that the use of morphine, heroin, codeine, laudanum or opium produces a diseased condition of the nervous system, the stichochrome nerve cells are irregular, the chromatic bodies are enlarged, the cells of the cortex and medulla are extensively altered, showing clefts of the cell bodies, which shows that there is a short-circuiting, fusing and burning out of the brain ganglionic cells. So we have to deal with a toxic neurasthenic, a disease of overstimulation, and the special indications are for cordial tonics, for a flagging heart deprived of its accustomed stimulation. The result of overstimulation is to produce met-

abolic perversion, and the fatigue of the nerve centers causes the formation of acids, which keeps up a condition of nervous exhaustion by chemical changes. In all cases of morphinism, there is found an excess of acid, and fatigue, whether physical or mental, gives rise to formation of acids, and that stimulation consists of abnormal elicitation of energy, leaving afterwards reactive depression.

The withdrawal method, which is generally accepted as best and safest by the leading authorities, both in this country and Europe, is accompanied by hyperacidity of the stomach, and to combat this acidity the use of alkalines is indicated. Gimball recommends the use of alkalines in the form of vichy water. Bicarbonate also acts upon stasis, and it is, moreover, a powerful tonic of the heart and circulation at a time when it is necessary to act upon vaso-dilation, which, caused as it is by general acidity, is helped by the tonic action of bicarbonate. It is generally accepted now by French writers in modern text-books, that heart tonics and vichy water are indicated from a therapeutic standpoint.

Crothers, who fitly represents American Medicine, says: "Great stress is laid upon the use during the entire treatment of preparations of soda to prevent or neutralize the acidity of the stomach or bowels. This is very essential in all methods of treatment."

It is maintained by some writers, and justly so, I think, that morphia in the organism is changed by oxidation into what is called oxydemorphine, and it is the presence of this in the blood, and not the want of morphine, that is the cause of the craving. Reasoning from this analysis, we should adopt a treatment that would comprise the promotion of "elementary discharges."

The morphinist is a man of double personality; after the injection he is in good humor, conciliating, capable of labor; after the cessation of its action, he is restless, repulsive, unable to concentrate himself and is dull. A new injection reanimates him.

The most prominent pathological mental system which is brought forth by the use of morphine is the perversion of the moral feelings. Faith and belief and honor have become subordinate in his consideration. Loss of intelligence and energy follow.

The physical symptoms of chronic morphinism manifest themselves in general emaciation, insomnia, obstinate intestinal obstruction, trembling of the tongue and hands,

weakness and ataxia of the arms and legs, contracted pupils, with red conjunctiva. Accompanying these is loss of appetite, the tongue is rough and dry, the teeth are carious and fall out, the skin is sallow.

I take this opportunity to condemn most decidedly the so-called "Knockout" treatment, viz.: hyoscine. It leaves behind in its wake a psycho-somatic sensation, a haunting obsession, with physiological factors, cardiac, gastric, nervous, associated with unbearable restlessness and a condition of inquietude and unrest.

As stated above in this paper, in the treatment of gradual withdrawal, there will be found a hypersecretion of hydrochloric acid in the stomach, which may be shown by the aid of the stomach tube; hence pumping out the stomach and administering alkalies is indicated.

There is one prophylactic measure of great importance, inattention to which is often the cause of failure, and which should be prescribed as a preliminary precaution in every morphia suppression. This is a thorough examination of the mouth. Morphia has always an injurious action on the teeth, causing caries and periarthritis. If the teeth have not been attended to, neuralgia will set up and be often the cause of relapse.

The main factors intended to be brought out in this paper are: First, that the use of opium or its derivatives produce a diseased condition of the nervous system, which is amenable to treatment, and the condition of this patient should be studied, as is the case with any other disease we come in contact with; second, when a physician prescribes this drug beyond actual medical necessity, he is warping the mentality, vitality and morals of the manhood and womanhood that go to make up the fabric of our great nation. Many novelists, who, with conspicuous ignorance as regards the medical bearings of the subject, have written about the interaction of mind and body and arrived at some very dangerous conclusions.

I am free to confess that when Christian Scientists and Apostles of "new thought" shall have banished sin from the world, then will infectious disease be no more, specific tumors of the brain and aneurisms, now requiring iodide, will be cured by Eddist ejaculations, then will our honored profession, whose waves have touched all the shores of human thought, within which are all the tides and currents of pulse; upon which lay all the

lights and shadows and over which brood all the calms and sweep all the storms and tempests, of which the soul is capable meekly bow in submission to credentive induction, but that time will never be, for our work is builded on scientific lines; theirs based upon credulity of dupes and false deductions are accepted as real causes.

Alcoholic Poisoning.

Acute alcoholic insanity occurs when there is a strong hereditary tendency to mental disturbance, or when the cerebral energies have been notably impaired by excesses or overwork. When all the predisposing causes exist it may not require a large dose of alcohol to bring on an attack. The most frequent form of the affection is violent maniacal delirium, known as mania a potu, with a tendency to homicidal acts.

In some cases the mental disorder takes the melancholic form, and it becomes necessary to guard against the strong suicidal tendency.

Chronic alcoholic insanity is one of the results of chronic alcoholism, and illustrates in a forceful manner the solidarity of the physical and somatic functions of the nervous system and the interdependence of their morbid manifestations. The mental symptoms are generally all present from the beginning. The sleeplessness so characteristic of commencing disorder is an early symptom; then restlessness and depression with suicidal tendency, sometimes passing rapidly into complete dementia, but generally passing through a course of moral and mental degradation, which progresses step by step, with the symptom of failure of the physical nervous power. Chronic alcoholic insanity presents many points of resemblance to general paralysis of the insane, and is in some cases only to be distinguished from it by the presence of mental depression, which is seldom more than a transitory symptom in general paralysis.

DELIRIUM TREMENS. It is important to note that after the acute symptoms have passed away, in some cases there is left behind a state of sub-acute insanity, of characteristic nature. At first suicidal symptoms are apt to appear, suspicious of poisoning, fear of impending evil, and hallucinations of hearing. The ordinary vinic or ethyl alcohol in any and every shape, as a sufficient cause of alcoholic insanity is beyond doubt. The more concentrated alcohol is taken, the more

surely and rapidly are its characteristic effects induced; and although some beverages give greater liability to certain forms of disease than to others, yet the ultimate tissue changes produced by all are practically similar and of a markedly degenerate character. Chronic alcoholic drinking is undoubtedly hereditary in many cases; not that the ancestors have been necessarily drunkards, but that the family is of an unstable nervous organization, and that the neurotic trait, which shows itself in other members in such affections as epilepsy, hysteria, insanity, is manifested in these cases by an intense craving for alcohol. Sometimes a pernicious education by fostering habits of indulgence in early youth has led to subsequent excess and chronic alcoholism; and the injudicious prescribing of stimulants has occasionally been productive of similar harm. It is well known to pathologists that a large amount of ardent spirits acts on the nerve centers as a narcotic poison and causes rapid death by coma; small quantities produce intoxication, accompanied with, or followed by, an acute congestion and catarrh of the alimentary canal, especially of the stomach and duodenum. Habitual dram-drinking by altering the chemical composition of the blood and checking the normal changes of its corpuscles, excites an injurious influence on the nutrition of the tissues. This is increased by the loosened consumption of food and the alteration in the caliber of the blood vessels, set up at first by a special action on the vasomotor nerves, and afterwards maintained by degeneration of their coats, as well as frequently of the heart itself. Alcohol interferes directly with the nutrition of the cell elements of the various organs, including the cerebro-spinal system, as it circulates through them, and it retards the elimination of effete materials, carbonic acid, uric acid and urea. In chronic alcoholism the amount of fat in the blood is increased. Chronic congestion and catarrh of the stomach leading to atrophy of the glands and an increase in the sub-mucous connective tissue is very common. The liver is at first enlarged from congestion and may continue so from a subsequent infiltration of fat, but more frequently it shrinks away to cirrhosis. Lobar emphysema, chronic bronchitis and hypo-static pneumonia are common. The heart is flabby, dilated and prevents fatty infiltration, and even degeneration of its muscular tissue, but it may be hypertrophied probably as a result of coexistent

disease of the kidneys. The arteries and endocardium are studded with other small deposits, the capillaries are congested and the veins are varicose. The kidneys exhibit the fatty, commonly the granular form of Bright's Disease. The muscles are pale and flabby, the formation of fat takes place at the expense of the bony texture. The nerve centers are atrophied and tough, the convolutions are shrunken, the nerve cells, and nerve fibers are wasted and an increased amount of serous fluid exists in the ventricles and sub-arachnoid space. The abnormal adhesion of the dura mater to the cranium, the large Pacchionian bodies, the opaque arachnoid, the thickened pia-mater, all testify to an aggravated development of fibrous tissue.

For the above reasons our alm-houses, prisons, hospitals and asylums are filled with diseased, suffering and often incurable human beings.

And now that the Harrison law, which will soon prove a great boon to humanity is being operated, the day is not far distant when national prohibition will be enacted.

Last July in the city of Chicago, the Alienist Convention assembled under the auspices of The Chicago Medical Society and unanimously endorsed a resolution endorsing national prohibition.

This was the first Medical Convention (composed of medical men from all parts of the United States) that took this stand on the alcohol question. Can't the Medical Association of Georgia endorse the great humanitarian reform and be a powerful factor in our nation in seeing that abuses may be corrected, wrongs righted and the amount of human suffering lessened?

The Cheston King Sanitarium, Atlanta, Ga.

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An advertisement in The Journal of the Medical Association of Georgia will bring results. Rates sent on request.

Does your card appear in the Professional Directory?

A NOTE ON INFECTED TONSILS.*

By Rufus T. Dorsey, M.D., Professor of Clinical Medicine, Emory University,
Atlanta, Georgia.

With others I believe La Grippe invasion takes place chiefly through the tonsils, and at the great risk of jeopardizing what I have written on pellagra, I am constrained to briefly comment as follows: Focal tonsillar infection as a cause of illness, is overwhelmingly the most important. Its connection with many so-called entities is well known, but I am positive that the half has never been told. Various sorts of ailments have passed away after I have thoroughly and completely cleaned up, or cleaned out even the most innocent looking tonsils. Were I to name them thinking men would not believe, so I refrain until a more appropriate time. Cases that state they have never had throat trouble and whose throats looked normal on even more than gentle examination, have most rewarded me. The varying types of so-called neurasthenia, especially the cases that previously proved such thorns in the flesh. It is almost inconceivable that the small amount of fluid pus and the little cheesy masses can create so much trouble, and that oftentimes so far removed from them. Many erroneously view these findings of no moment whatsoever. Tonsillotomy and incomplete tonsilleectomy not only too frequently fail to cure, but sometimes further serve to mask. Beyond doubt some chronic infections may reside in the tonsils more or less latent or intermittent over a long period of years.

If you can consent to this statement then turn to any standard textbook on the "Practice of Medicine" and read the multitude of symptoms, complications and sequelae that have followed influenza. Am I not treating **now**, at the fountain-head, the long-delayed sequels begotten by various preëmitting influenæes? Shall we cast out diseases from the sequels of influenza only because a considerable time has elapsed? Why is the germ so constantly found in the respiratory passages of so many people unless a brooder is turning them out? They are not very viable. Jehle has found them in the tonsils **only**, in several cases. Why have diseases increased so since the influenza pandemic? In various

processes is not the presence of this almost ubiquitous organism properly accounted for? Can we doubt this paragraph from Osler: "Since the last severe epidemic it has been the fashion to date various ailments or chronic ill-health from influenza. In many cases this is correct. It is astonishing the number of people who have been crippled in health for years after an attack." (Osler on Influenza.) Or this from Lord: "As yet no proof has been offered that Pfeiffer's Pseudo Influenza Bacillus, the whooping cough Bacillus, Jundell's Bacillus Catarrhalis, Muller's Trachoma Bacillus and the Koch-Weeks Bacillus, are not identical with the true influenza bacillus." (Lord on Influenza.) Could all these germs not be mutations?

The literature is rich with somewhat similar and just as appropriate citations, but I will cease with this: "Some patients who have once suffered from influenza seem to be especially liable to recurrency, which may be due to the persistence of the bacillus in the upper parts of the respiratory tract causing auto-infections." (Lord on Influenza.) When the final data as to the tonsils is all in, medicine, I am sure, will have been conspicuously enriched.

It is to be distinctly understood that the tonsils are not regarded as the sole focus from which trouble may arise; it is only too true that there are many others, but surely the tonsils are the most important. I have found it so. I trust that this note will find its way into the hands of some who have viewed the subject lightly, and that they will be prompted to consider, investigate and reveal.

Finally, to anticipate, I at once plead **guilt** to the charge of being a crank on the tonsils, and I might add, also, that I am not a specialist in this line of work. Later I expect to report a series of clinical cases.

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*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

MY EXPERIENCE WITH PITUITRIN.*

By Dr. Hubert Rawiszer, Omaha, Ga.

The purpose of this article is not to teach you anything in particular; I just wish to tell you of my personal experience with Pituitrin, both in private and in hospital practice. The Pituitrin which I speak of and use exclusively is manufactured by Parke Davis & Co. Now, some of you may frown at my statements; others may disagree with me; while others will try this preparation to the same degree I have tried it, and still I hope to find a few who have had similar results. The principal factor that I want to bring out in this paper is its supposed contraindication; i. e., it has been said, "*Don't Use Pituitrin Unless the Cervix Is Fully Dilated.*" This may be all right in some cases, but I do not wholly agree with this set and hard fast rule. To bring out what I mean, I will cite a few cases.

Case No. 1: Mary W., Negro. Age, 17 years. Primipara. I was called over the phone one Sunday evening to a plantation 12 miles away. I asked "If it was anything of importance," meaning obstetrical, of course. I was told, "No, but come at once, as it is a question of life and death." I afterward found out that the one who gave me the message did not know the nature of the case. I found this girl on the floor propped up with her back to a bedstead. She had been in labor 36 hours. "Bag of waters" had ruptured 20 hours previous to my visit. She was attended by a "negro mammy." Labor pains had stopped 14 hours previous. She had refused food for 24 hours, but drank large quantities of water. On examination, I found a vertex presentation, with a R. O. A. Head engaged. Pulse, 100-fast, wiry and weak. Membranes ruptured. There was a dilatation of one plus. Girl was completely exhausted; she had that haggard, worn-out expression. If manual dilatation and forceps were ever indicated they certainly were in this case. But as I was unprepared, it was a question of going back 12 miles after forceps or trying Pituitrin. She seemed to be getting weaker all of the time, and something had to be done at once.

I gave her one-half an ampule of Pituitrin subcutaneously. In ten minutes got slight labor pains; no increase in dilatation. In

one-half hour repeated dose; pains became stronger and more often. In one hour I had a dilatation of 2 plus; gave another half an ampule and in fifteen minutes repeated the dose. Cervix began to dilate rapidly. Delivered a 9-pound boy in two hours after I had arrived. Placenta was delivered in 10 minutes later, without interference. She made a good recovery.

Case No. 2: Frances S. Negro. Age 32 years. Multiparae. While making my calls, I was asked to see this woman. Examination showed marked ascites and extensive oedema of hands, legs and feet. She said that she had passed very little urine in the past two weeks. Her abdomen was markedly extended, and when she sat down would come out beyond her knees. Legs were twice the normal size of the average woman, and would pit on pressure. On auscultation, I found two fetal hearts. One beating 147 and the other 138 times a minute. On Palpation I made out a vertex, with a L. O. A. presentation and a breech; the exact presentation I could not make out. In the vertex the head was well engaged. Going into her past history, I found that she was the mother of 14 children, with eight living. She had twice given birth to twins. She complained of dimness of vision, persistent headaches and the outcome of this birth looked blue to her. On examination of the urine, I found 15 per cent albumin, by volume, and a slight trace of sugar. I was called the next afternoon, and found the woman having convulsions, and every typical symptom of eclampsia. I gave her sedative treatment; i. e., veratrum, morphia, etc., and turned my attention to the emptying of the uterus. I had no help and I had all I could do to look after the convulsions, not alone doing a manual dilatation. I pushed the veratrum and gave one ampule of Pituitrin. I might state that, on examination, the cervix would hardly admit the middle finger. Within 20 minutes slight labor pains started. Cervix was dilated to one plus in an hour and the convulsions continued. I then gave her a half an ampule of Pituitrin; in half an hour the cervix had dilated to three plus and the membranes ruptured. Gave her another half an ampule and head presented at the vulva. Ten minutes later I delivered a breech; I had no trouble at all. Fifteen minutes after the second child was born I expressed a double placenta. Convulsions at this time were less frequent, and not so severe. I stayed six hours, and

*Read before the Stewart County Medical Society, March 5, 1915.

at that time she had passed two hours and a half without having a convulsion. I left, prescribing sedative treatment, with the instructions to call me immediately if convulsions started up. I wasn't called. To the best of my knowledge, she never had another convulsion. The last I saw of her she had a fine pair of twins, and all three seemed to be enjoying the best of health. Whether or not the Pituitrin had any effect on the convulsions, I am at a loss to say.

Case No. 3: Margaret P., white woman. Primiparae. Age 18 years. Hospital. Was in labor eighteen hours when I saw the case. Pains were about eight minutes apart and lasted about one-half a minute each time. Nurse claimed that pains had been the same for 16 hours. On examination I found a vertex with a R. O. P. presentation. Cervix dilated about 00. Measurements normal. Fetal heart, 145 per minute. Woman's pulse 101, weak and wiry.

Gave one-half an ampule of Pituitrin; immediately her pains began to be about six minutes apart and were stronger and lasted longer. Gave another half an ampule in one hour, and in fifteen minutes from the last dose there was a dilatation of about two-plus. Pains by this time were about three minutes apart and lasted about a minute and a quarter. Gave another half an ampule, and in twenty minutes had a dilatation of three plus and membranes had ruptured. Repeated the dose in half an hour and delivered the child in ten minutes. Expressed the placenta 20 minutes later.

In conclusion, I wish to say that the reason I have presented these particular cases is that Pituitrin is supposed to be contra-indicated where the cervix is not fully dilated. I do not wish to be misunderstood, and I do not use Pituitrin as a regular routine, nor do I use Pituitrin in every obstetrical case that I have. However, I will state that I have used this preparation in ninety-six cases, and have been successful in every case. With my limited experience, I would not advise the indiscriminate use of this drug. You must use your own judgment in every case. I also wish to state that The Sloane Hospital, which is connected with The Medical Department of Columbia College, of New York, where I spent some time, will not use the drug at all, or, at any rate, would not use it last year when I was there. I believe that in complete uterine inertia, occurring in cases at full term, it is frequently

possible to institute labor by the injection of Pituitrin alone at intervals of several hours. In Primary and Secondary Uterine Inertia, the injection should not be made too early, but only after labor pains, even if feeble, have begun. The further the labor has progressed, the more energetic is the action of the first injection. I believe in its use to accelerate labor in a moderately narrow pelvis for dilatation, combined version, and in fever during labor. Also in threatened or existing eclampsia, also in the presence of danger of intra-uterine asphyxiation. I believe that it is a haemostate, and there is less danger of post-partum hemorrhage. I wish to call your particular attention to the fact that I never start with more than half an ampule, and rarely give more than that at a time, and at no time give it oftener than fifteen minutes apart, and in most cases I wait half an hour. I would not give this preparation in advanced nephritis, abnormally narrow pelvis, myocarditis, threatened rupture of the uterus or in arteriosclerosis. If my limited experience will help you any, I shall consider my time well spent in preparing this paper.

DISCUSSION ON THE PAPER OF DR. RAWISZER.

DR. KENYON, Richland, Ga.: I want to congratulate the doctor on his admirable method in describing his cases; also on his well-written paper. I have had very little experience with Pituitrin, but what I have had has been gratifying. I can add nothing to his paper.

DR. LUNSFORD, Weston, Ga.: I should like to ask the doctor in regard to the dosage and frequency.

DR. ARMOUR, Brooklyn: I have had very little experience with the drug, but I shall be glad to try it oftener in the future.

DR. RAWISZER, in closing: In answer to Dr. Lunsford, I wish to say that I rarely ever start with more than half an ampule, and never give it oftener than 15 minutes apart, and I usually wait a half to an hour. You must use your own judgment in every case.

An advertisement in The Journal of the Medical Association of Georgia will bring results. Rates sent on request.

THE TREATMENT OF TYPHOID FEVER.*

Frank Bird, M.D., Valdosta, Ga.

This disease, which carries with it all the dread of hemorrhage, perforation, invalidism, and death itself, is rapidly becoming less and less prevalent, due to the rigid sanitary laws, milk inspection, the war on flies, better food preparations; and last, but greatest, the immunizing typhoid vaccine which has proven of inestimable value as a prophylactic measure.

In spite of all this, we encounter it in different localities to a greater or less extent. As any disease becomes less prevalent the diagnosis becomes more difficult on account of our lack of experience with it. And to the country practitioner, who has a few cases a year, isolated and at different times of the year, and who is without equipment for laboratory examination of the blood, it becomes especially difficult at times to make a diagnosis until the disease is well advanced. Indeed, we may recall times when the diagnosis has been in greatest doubt in cases coming under observation with the disease progressed until cleared up by hemorrhage.

This article of treatment leads off supposing the diagnosis has been made, but for the benefit of those who have not equipment for laboratory examinations, it is well to mention one thing that may prove valuable in clearing up a doubtful diagnosis. To the patient, first coming under observation with a history of recent onset of illness, give quinine bisulphate for three days in succession, and besides the general condition note especially the temperature to find if it becomes normal at any time in the twenty-four hours, which is an important point in the diagnosis, especially in malaria districts. If at the end of this time there is no improvement in the symptoms, general condition or the temperature, the patient still presenting a picture of possible typhoid, then we are justified in treating it as such. It can not be cured in a day; in fact, so far it is hardly justifiable to say that it is cured at all. The patient gets well. Every doctor has his pet treatment, which works excellently when the patient recovers, but there are those cases which do not recover.

In this article only those points are men-

tioned which I have found to be most valuable from numbers of cases in my hospital experience, as well as in private practice. The complications are not dealt with.

CARE OF THE MOUTH, TONGUE AND TEETH: The tongue, mouth, and teeth should be kept clean by the use of boric acid solution daily, and glycerine, with a little lemon juice applied to the lips, keeps them moist and with a taste.

FEVER: The laity is impressed with the height of the fever; they judging the severity of the disease by this. The physician recognizes in the fever the exhaustion of his patient's strength, the burning of the tissues, the fact that medicines are slowly absorbed or are not absorbed at all is wholly missed. It is essential that the patient be kept in bed, their physical and mental powers conserved by every possible means, the secretions being passed in bed pan or urinal and all treatments being given in bed. Hydrotherapy has proven the remedy par excellence for the reduction of temperature. The tepid or cool sponge bath in bed is to be given every four hours night or day, for temperature of one hundred and two and three-fifths or over.

A nurse is a great comfort and an undoubted aid to the family as well as to the patient, but we have those cases where it is impossible to employ a nurse and an intelligent member of the family must be taught to give the bath and take the temperature. If there is any doubt about the degree of the temperature a bath does no harm, as it allays nervousness, quiets mild delirium, stimulates the skin to activity, as also the kidneys, quiets the heart and the respiration becomes slower and fuller.

TECHNIQUE OF BATH: The patient is rolled to one side and a piece of rubber sheeting or oil cloth placed on the bed and a sheet over this. The patient is then rolled back. The bath is begun on the arms, the rest of the body being covered, and a piece of ice in each axilla. The arms are sponged each a few minutes, then the chest and abdomen, then the legs. It is essential that the sponge is not squeezed dry, some water being left and allowed to trickle about on the patient and to run under him. After the legs are finished the back is sponged and rubbed with alcohol and dried. The patient is then placed on a dry sheet and covered. An alcohol rub after each bath is certainly an advantage. Baths are to be of thirty to forty minutes'

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915

duration, according to the reaction. Usually a bath of thirty minutes will lower the temperature, without causing an unfavorable reaction, such as chilliness or cyanosis. The temperature is to be taken thirty to forty-five minutes following each bath and if not effectually reduced the subsequent baths may be of cool water as it comes from the hydrant or the well, and, indeed, in some cases, small lumps of ice may be added.

"The ice wristlets" have proven an advantage in that they reduce the temperature somewhat, thereby diminishing the necessity for so many baths and as a consequence the patient is less often disturbed. They are made by cracking ice very fine and spreading it in a towel in a layer one-half to three-quarters of an inch thick, ten to twelve inches long, four to five inches wide. The towel is then folded and applied around each wrist or arm and tied loosely in position; a piece of oil cloth or rubber sheeting being placed under each to prevent the bed from getting wet. They are to be removed in from fifteen to twenty minutes, or earlier if the patient complains of pain, and are to be reapplied as often as necessary. However, they should never entirely replace the baths.

An ice cap should be kept to the head constantly while there is fever.

The patient is encouraged to drink freely of water, as it dilutes the toxins and stimulates the kidneys besides being a great aid in maintaining the blood pressure.

The temperature, pulse and respiration should be taken regularly every four hours.

HYPERPYREXIA: Should hydrotherapy prove entirely ineffectual, aspirin is a very satisfactory adjunct. It should be given in small doses and repeated if necessary, two grains to begin with. It is not to be used as a routine, but is given at those times of hyperpyrexia uncontrolled by baths. Aspirin is quick in its action, and is sometimes depressing when given in large doses. For instance, the following cases may be cited as examples:

Case No. 1: Five grains were given to a man with temperature above one hundred and five degrees. His temperature began to fall quickly, accompanied by a profuse, cold perspiration and depression. The temperature became sub-normal. Hot water bottles and stimulants were required to sustain him.

Case No. 2: A child nine years old, with a temperature of one hundred and six de-

grees was given two grains and the temperature dropped to ninety-nine very quickly, with symptoms of depression, profuse cold perspiration, rapid weak pulse. This child, however, recovered with the application of stimulants and hot water bottles.

The above examples are selected from my case book as extremes, to illustrate the point that we must be very cautious in the administration of aspirin in larger doses in cases of hyperpyrexia.

DIET: Every two hours during the day and every four hours at night, some form of diet should be given, except sweet milk. The following are permissible: Buttermilk, egg albumens, broths, cocoa, ice cream, orange juice, the pulp of baked or stewed apples. Proprietary foods are expensive and unnecessary. A piece of very soft milk toast without the crust and a very soft egg given at breakfast time is not radical, but very beneficial and no harm comes of it. On the other hand it is good practice. With these regular feedings and the above diet the patient loses little weight. As the temperature begins to be lower in the mornings, a small potion of well-cooked soft rice, with cream and sugar, may be added at dinner-time. After the temperature remains normal throughout the morning with a slight evening rise, a very soft egg and very soft toast may be given for the evening meal. After the temperature is normal throughout the day, a lamb chop, boiled donè, may be allowed at breakfast. Too rapid increase of diet is to be guarded against, as the ulcers in the ileum are not entirely healed, and there is still great danger of hemorrhage and perforation.

All dishes, spoons and glasses are to be sterilized by boiling and kept especially for the patient's use and away from the other dishes.

MEDICATION: There are no curative medicines for typhoid. However, dilute hydrochloric acid, in doses of mxxv to mxxv in a glass of water three times a day, through a tube, serves to make up for a deficiency in the stomach. It has been shown by laboratory experiments that the amount of HCl is materially decreased in the stomach during fever. Therefore, it behooves us to replace it to the normal limit at nearly as possible. It greatly aids in the digestion of foods and absorption from the stomach; it is the natural component of the stomach juice and may possibly have some antiseptic properties.

It is a certain fact that meteorism is much reduced or nil while using it. Numbers of cases have passed through the whole course of fever without tympany, which is very important from a standpoint of comfort and complications. The liability of hemorrhage and perforation is much less in a flat abdomen than in one distended. It is not a mistake to use the acid as a routine throughout the illness, and even into convalescence, as the administration of the acid will not cause gastric irritation even when given over a long period of time.

Urotropin, theoretically and practically eliminates the typhoid bacilli from the body secretions, but otherwise has no effect on the course except that it prevents the accumulation of the bacilli in the gall bladder, and possible subsequent gall stones.

STIMULANTS: Stimulants are to be used when needed, i. e., when there is evidence of weakness or beginning weakness. They are not necessary in all cases. Camphor, as the camphorated oil, sterile adrenaline chloride, sparteine sulphate and caffeine citrate hold first place. For a quick stimulant, camphor is probably the best given hypodermatically. When a stimulant is to be used over a period of time, sparteine or caffeine or both are especially serviceable on account of the pronounced action on the heart and kidneys.

DELIRIUM: Ordinarily, delirium is held in check by the baths and ice caps, but still we encounter those cases that demand treatment for this symptom, and an opiate is best given. Morphine, given hypodermatically, holds first place. This is an instance where morphine exerts a wonderful influence, and is almost a life-saver in the rest to the vital powers it gives to the patient.

BOWELS: The rectum should be emptied of its contents every day or every other day, by an enema of soapsuds, water, or saline solution. Usually every other day is quite often enough, if the bowels do not move in the meantime. In the beginning of the disease there is no objection to a small dose of calomel as a preliminary to treatment, but later in the course cathartic drugs, however mild they may be, should positively not be used on account of the ulcers in the intestines and great liability to hemorrhage and perforation. Patients are constantly in danger of these complications at best, and are certainly more liable to them if the bowels are tampered

with by cathartic drugs. It is a well known fact that the quieter the intestines are kept, the less danger of both. Hence we only show good judgment when we desist and rely on natural movements and the enema, expecting little more than the return of fluid injected and flatus. It is the unseen flatus that gives the bulk to the intestines.

For more than an extra amount of tympany, add drams 1 to drams 2 spirits turpentine to the water, or give an enema containing milk of asafoetida, one-half to two ounces. It has a disgusting odor, which fills the whole house, hence its use is restricted. Be constantly on the lookout for any irritation of the skin caused by position in bed. Keep the patient dry, use alcohol as a rub and change the position now and then. If irritation appears use the rubber ring or place some soft material under the patient and keep the nates and sacrum very dry.

Visitors should be excluded. It is well enough for members of the family to pass "Good morning" and "Good evening," and say a few pleasant words, but never to enter into a conversation with the patient on any subject. They worry enough as it is on account of their illness. Frequently delirium shows the trend of their mind when last they were rational, and there is no doubt that worry increases the temperature.

SERUM THERAPY: The recent introduction of the "typho-serobacterin therapeutic" is rapidly gaining favor. At the present time it is given in ascending doses, beginning with syringe A and giving the B, C and D at intervals of thirty-six to forty-eight hours. There is slight, if any, general reaction when given in this way. It appears to lessen the severity of the disease, lessens the liability to hemorrhage and perforations and when given early shortens the course and gives a safer convalescence. Personally, I believe the dosage small, and believe better results would be obtained if given in larger doses. All other sero-bacterins, I begin by giving the D syringe with good results, and see no reason why the same would not apply to typho-serobacterin. Recently a case 14 years old came under observation in the second week with hyperpyrexia, involuntary bowel movements, delirium, picking at the bed clothes and tongue parched and dry. Typho-sero bacterin was given in ascending doses until syringe D was given. The patient showed

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THE JOURNAL

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THE SAN FRANCISCO MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

Despite predictions to the contrary, the San Francisco meeting was quite a success. It seems that the counter-attraction of the big show did not materially interfere with the orderly conduct of the business of the Association, and the great distances from the centers of medical population did not materially interfere with the attendance. The attendance last year at Atlantic City, in the midst of the greatest mass of medical men in the country, was 3,958; at San Francisco, far from the great bulk of the medical profession, it was 2,315. We note that only a few state associations were not represented in the House of Delegates, and the missing members were principally from the larger cities in the East and Middle West. It would be interesting to study the registration with a view to determining just how much new blood there was in attendance. We have be-

fore insisted that any expedient that would attract to the meeting of the American Medical Association a number of Fellows who had not before attended, is worth while. The many attractions of these annual meetings may be depended upon to hold them to future attendance. The trouble with most organizations of this character is that they fall into the hands of a few, and thereby get into a routine which may or may not represent the great bulk of its members. The new blood added from time to time in this or any other manner, is wholesome.

In the election to the presidency of Dr. Rupert E. Blue, Washington, D. C., Surgeon-General, United States Public Health Service, the Association did itself credit and honored one of its most worthy and highly respected members. This particular meeting of the Association was more than anything else, commemorative of the leading part taken by the sanitarians in the profession in the construction of the Panama Canal and the clean-up of many tropical and semi-tropical countries and ports, and it is eminently fitting that one of the chief sanitarians of them all should have been elected to leadership. Dr. Gorgas, to whom the success of the Panama Canal undertaking may properly be credited, has already been honored in this respect, and has served his time as president. It will be recalled that it is to Dr. Blue that the Pacific Coast, and entire country, as for that, owes its present freedom from the prevalence of bubonic plague. It is to him, also, and his competent assistants in the United States Public Health Service, that New Orleans and the South are likewise favored. It is difficult for any one not connected with the prevention of pestilence, to understand the many difficulties in the way, and the great amount of diplomacy and initiative necessary to succeed. It is perhaps to the diplomacy and initiative of Dr. Blue, more than to his scientific attainments, however extensive they may be, that this country owes its freedom from plague and pestilence, and we believe that the intelligent laymen and the medical profession as a whole, will warmly approve of his election to the presidency of perhaps the greatest medical body in the world. The vice-presidents are as follows: Drs. Albert Vander Veer, Albany, N. Y.; Geo. B. Evans, Dayton, Ohio; Donal Campbell, Butte, Montana, and H. C. Moffitt, San Francisco. Dr. A. R. Craig was re-elected Secretary, and Dr. W. A. Pusey, Treasurer. Drs.

Harris, Councilman and McDavitt were re-elected to the Board of Trustees. Detroit, Michigan, was selected as the next place of meeting, and it has been suggested that perhaps a Ford automobile will be presented to each member as a badge, which will be entirely appropriate, as it can afterwards be used as a watch charm.

THE TREATMENT OF TYPHOID FEVER.*

(Continued From Page 100.)

slight improvement and it was deemed advisable to continue the sero-bacterin and separate syringes C and D were given. There was notable improvement, the patient subsequently making a rapid and uneventful recovery. It is best to give the sero-bacterin in the morning or when the temperature is lowest.

The treatment given above is the routine which I use when possible. Although many other measures, not mentioned in this article, are of value and may be used, still, I consider the points mentioned to be best for use in general practice, and in following same I have had a good percentage of rapid and complete recoveries.

THE TREATMENT OF FRACTURES,

With Notes upon a few Common Dislocations.

By Charles Locke Scudder, M.D., Surgeon to the Massachusetts Hospital; Assistant in Surgery, Harvard Medical School, Boston. Eighth Edition. Octavo; 734 pages; 1,057 illustrations. Philadelphia and London: W. B. Saunders Co., 1915. \$6.00, net.

The new edition of this very practical and deservedly popular work shows but few minor changes as compared with the seventh edition, published in 1911. So solidly is the book based on rational therapeutics and competent observation that few changes might, indeed, be looked for in the descriptions of fractures and their non-operative management. New material has been added to the consideration of fracture of the jaw and the acetabulum. A paragraph is now devoted to fracture of the greater tuberosity of the humerus—a frequent, often overlooked cause of shoulder disability that therefore deserves

longer consideration. Several new illustrations have been added to the many admirable ones that have constituted so valuable a feature of this work.

In his preface Scudder says, "It appears to me that the greatest recent advance in the treatment of fractures of bone is the application of the principle of the autogenous bone-graft in cases of delayed union and non-union." We quite agree with him, and we were disappointed and surprised to find that the subject is not alluded to again in the text itself, "an autogenous bone-graft" is added to the list of fixation agencies in the 9-page chapter on **operative treatment**. Otherwise this scant and unsatisfactory chapter is repeated as it appeared in the seventh edition. To be sure, the chapter is introduced chiefly as a plea for conservatism, but it is illustrated by pictures of bone plates, clamps and drills, and it does give a list of fractures that most frequently offer rational indications for open treatment. Admitting that operative management has a definite and important place in the therapy of fractures, and recognizing the dignity of, and the wide interest in, that phase of the subject this chapter should, we think, have been expanded into an adequate exposition of the various operative procedures, their technics, indications and contraindications. It would have been better, otherwise, to omit this chapter altogether which, by its brevity, serves only the purpose to emphasize the author's very proper attitude that most fractures may be well treated without the knife.

WARNINGS.

The following notices have appeared in recent numbers of The Journal of the American Medical Association, and are given for what they are worth. Swindlers work in wide circles and vary their methods considerably. The A. M. A. organizers at present in Texas, have credentials from the State Secretary.

"There is continually coming to this office," says The Journal, "evidence of the fact that doctors are still allowing themselves to be swindled by unauthorized solicitors under various representations. Evidence has been received that at least ten physicians have been victimized by these persons during the last six weeks. One active worker calling himself E. B. Huntington carries blanks bearing the name of the National Ed-

ucational Association, 130 Nassau Street, New York City. As we have intimated before, there is no such association at that address. Two checks bearing the indorsement of this individual have been received this week. In one Huntington inserted his own name, making the check payable to him 'or to the American Medical Association'—a pure case of forgery; in the other case the doctor apparently was inveigled into making the check payable to Huntington direct. In the latter case the doctor wrote 'for the American Medical Association,' evidently supposing that this would protect him. Huntington is not the only man who is traveling over the country working doctors and others. May we suggest that those who would avoid being swindled should not pay money to traveling men whom they do not personally know. Checks should not be made payable to any person, but to the concern the person claims to represent; and even then one should be very sure that there actually is such a concern. Money should not be paid to any one claiming to represent the American Medical Association unless he carries credentials bearing the signature of the Editor and General Manager and the seal of the Association."

Dr. Sorlen W. Staads, of Sioux City, Iowa, states that on October 13, 1914, Fred Hernbloom, then agent for the American Accident Insurance Company, of Lincoln, Nebraska, sold him two policies in this company for which he gave an official receipt. The company claims that Hernbloom has turned in neither the applications for the policies nor the premiums thereon, that he is no longer their agent and will not inform Dr. Staads where he can be found. Dr. Staads requests that any one who may learn of the address of Fred Hernbloom, will notify Hon. E. H. English, commissioner of the insurance department of Iowa, or Dr. Staads.

The medical profession is warned against a young man traveling under the name of Paul Goodman, who has claimed to be a representative of the Victor Electric Company, and endeavors to gain the confidence of physicians to induce them to cash a personal check. The Victor Electric Company states that it does not know this man, he has never been in its employ nor handled its goods directly or indirectly. "He is said to be a little fellow, about 22 years old, and all scarred up, and claims the burns were caused by electricity." This man has been operating in

Terre Haute, Ind., Omaha and Hastings, Neb. Any physician knowing this man's whereabouts will confer a favor on the Victor Electric Company by sending a collect telegram to the company at its general office in Chicago.

The attention of physicians is again called to the activities of certain young men in Pennsylvania who are attempting to secure subscriptions for The Journal and other magazines through a bureau which they call the National Educational Association, the plea being based on the desire of the young men to secure free scholarships. When last heard of the scheme was being pushed in Philadelphia.

The Journal is informed by Dr. Linsly R. Williams, deputy commissioner of the New York State Department of Health, that a man recently presented himself in Butler, Pa., as George H. Gray, pathologist of the New York State Board of Health, and incurred numerous obligations, after which he left without settling for them. The New York State Department of Health has never had any one of this name in its employ, and desires to warn others against this imposter.

Dr. Walter F. Rochelle, Jackson, Tenn., calls attention to the fact that a subscription swindler is operating in that district offering subscriptions to current magazines with medical books as premiums. The physicians pay cash in advance and obtain a beautifully embossed green receipt, but the books and magazines are never received.

The Journal of the American Medical Association warns against certain subscription swindlers in Pennsylvania, who have now extended their work to Ohio, and who solicit subscriptions to current periodicals, including medical journals, and claim they are working for scholarships in various universities and colleges. Among the names reported are: George B. Watson, E. B. Huntington and F. L. Daley. Reference should be made to the editorial "The Physician an Easy Mark," published in The Journal of the American Medical Association.

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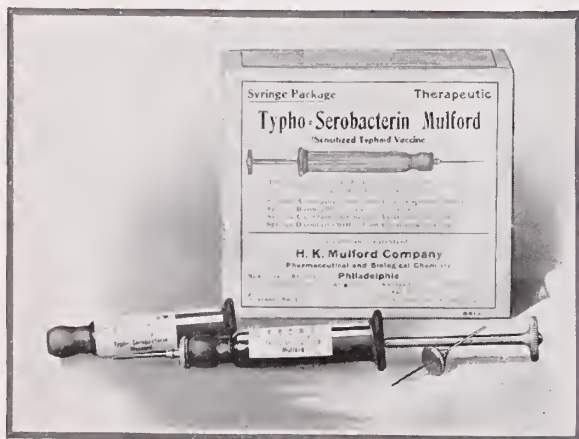
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Typho-Serobacterin Immunizing Mulford is furnished in packages of **three** aseptic glass syringes, graduated to contain: **First Dose**, 1000 million; **Second Dose**, 2000 million; **Third Dose**, 2000 million sensitized typhoid bacilli.

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Full literature mailed upon request.

* Major Russell, Journal American Medical Association, August 30, 1913.

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OBSERVATIONS ON SYPHILITIC DISEASE OF THE NERVOUS SYSTEM.*

Lewis M. Gaines, M.D., Atlanta, Ga.

Syphilis is the most potent cause of diseased conditions of the nervous system. Using an algebraic mode of expression we may say: Many diseases of the nervous system=syphilis + x. The combination of various predisposing causes, the majority of which are problematical, or, at best, theoretical, with syphilis, originates various forms of disease of the nervous system to which we have given various names for the sake of convenience. It must be said, however, that the majority of these diseases were described and recognized many years before we realized the important role syphilis has played in their causation.

Assuming that the Wassermann reaction accurately performed and competently interpreted in connection with definite clinical symptoms is indicative of the presence of syphilis, we may say that syphilis is found to be the important causative factor in a very considerable number of patients present-

ing quite diverse clinical symptoms. There is no symptom or group of symptoms diagnostic of syphilis of the nervous system, though there are many which are extremely suggestive. The most striking single feature of syphilitic disease of the nervous system is the extraordinary diversity of clinical symptoms presented by a series of cases.

Syphilitic disease of the nervous system can no longer be considered a rare condition. One must now consider under the head of syphilitic diseases, tabes, general paresis, many varying types of cerebro-spinal syphilis, many cases of epilepsy, many cases of cerebral arterial disease, many cases of paraplegia, and many cases of peripheral nerve disease. Prior to our refinement in diagnosis syphilis was frequently unsuspected.

As would be expected the variety of pathological changes found corresponds to the diversity of clinical symptoms. Arterial changes, meningitis, myelitis, degenerations of tracts and nerve cells, pathological exudates, and later sclerotic changes in various locations in brain and cord give rise to innumerable clinical pictures. These pathological changes are the result of long continued activity on the part of the spirochaetae. In this connection it is of interest and

importance to refer to the recent work of Wile and Stokes on the involvement of the nervous system during the primary stage of syphilis. These investigators found from their study of the spinal fluid that the nervous system in at least 60 to 70 per cent of cases is involved before there are other evidences of the hematogenous spread of the spirochaetae from the site of the initial lesion. Such involvement may be slight and non-productive of clinical symptoms, or may be serious and early. It would appear from the study of these observers that the central nervous system is one of the most attractive places in the body for the spirochaetae. Whether or not clinical symptoms are produced would appear to depend upon the unknown factor which I have called x. Furthermore the spirochaetae may lie dormant in the central nervous system over a period of time varying from a few weeks to thirty or more years. The conclusion is inevitable that any one with uncured syphilis is liable at any time to develop syphilitic disease of the nervous system, depending upon the operation of the predisposing causes concerning the nature of which we are at present comparatively ignorant.

It becomes a matter of the greatest importance to ascertain in a given case whether or not syphilis is the cause. Briefly the diagnosis must rest upon first the clinical history and physical examination; second, the result of laboratory findings. In regard to the clinical history denial of infection is of no value. The presence of certain symptoms is suspicious. Such symptoms are epileptiform attacks occurring after the age of 30; apo-

plectiform attacks with rapid recovery, especially where high blood pressure and nephritis can be excluded, involvement of various cranial nerves, especially the 2nd, 3rd and 8th, persistent headaches, abnormalities of the deep reflexes, many types of motor disturbances in the limbs, and, needless to say, any of the classical signs of tabes or general paresis. The list is not complete, but I believe embraces the most striking suggestive symptoms.

The laboratory occupies a very necessary place in the examination. We must weigh clinical evidence and the laboratory findings together, not separately. A Wassermann should be done on the blood. If positive, assuming we believe in the reliability of the test and in the competence of the man who does the test, syphilis is present. Whether or not it is a case of syphilis of the nervous system depends upon the clinical findings. If the blood Wassermann is negative, it by no means proves the absence of syphilis. Our next task is to examine the spinal fluid. Many of my series of cases have shown a persistently negative Wassermann on the blood, with positive spinal fluid findings. In examining the spinal fluid one desires a Wassermann test, a cell count, a globulin estimation, and in certain cases Lange's colloidal gold reaction. A positive spinal fluid Wassermann, a cell count of more than ten lymphocytes per cubic millimeter and in some cases an increase in globulins means syphilis involving the nervous system.

The following chart indicates the principal features in the series of cases now reported:

Case	Age	Duration	Prom. Symp.	Clin. Findings	Status Epilepticus	Spinal Fluid				Glob. Clin. Type	Treatment	Results	Remarks
						W.B.C.	R.	Cells	Glob.				
1	12	6 mos	Deep Headache Nausea Apathy	Negative	Adm	++++	—	—	—	Cerebral	Salt Intramusc. (2) H ₂ Tissue N.E.	Clinical Cure	
2	38	3 mos	Epileptic Convulsions (3)	Negative	Den	—	—	24	No Inc.	Cortical	Refused	Progressing of Symptoms	
3	32	8 mos	Diplopia Headache Apathy	Skin Eruption H. R. Pupils Tonic Vomiting	Den	Positive +++	200-400 500-1000 700-1100	16	No Inc.	Basilar	Salt Intramusc. (2) H ₂ Tissue N.E.	Clinical Cure	Relapse after 12 months treatment Bancroft's Weakness Reg. H ₂ Tissue N.E. Lungs Cin Recovery
4	55	7 mos	Epileptic Convulsions (5)	Negative	Den	Positive ++	200-400 500-1000 700-1100	4	No Inc.	Cortical	Salt Intramusc. (2) H ₂ Tissue N.E.	Clinical + Serological Cure	
5	38	3 mos	Lightheadedness Headache Nausea	Headache H. R. Pupils Tonic Vomiting	Adm	Positive +++	200-400 500-1000 700-1100	47	No Inc.	Tuberc.	Salvarsan and Serum (2)	Marked Clin. Improvement	
6	44	8 mos	Agitated Affective Headache Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive ++	200-400 500-1000 700-1100	28	No Inc.	Cerebral Spinal	Salt Intramusc. (2) H ₂ Tissue	Slight Clin. Improvement	Severe Rigor Disease
7	39	8 mos	Epileptic Convulsions Headache Apathy	Headache H. R. Pupils Tonic Vomiting	Adm	Positive ++	200-400 500-1000 700-1100	14	No Inc.	Cortical	Salt Intramusc. (2) H ₂ Tissue	Marked Clin. Improvement	Retrolental Neuritis Persistent Atropine - H. F. Normal
8	13	1 yr	Headache Nausea Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive ++	200-400 500-1000 700-1100	81	No Inc.	Tuberc.	Salvarsan and Serum (2)	Died	
9	36	3 mos	Epileptic Convulsions Headache Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive ++	200-400 500-1000 700-1100	60	No Inc.	Cerebral	Verapamil H ₂ Tissue N.E.	Died	Under Observation 2 mos
10	40	2 mos	Epileptic Convulsions Headache Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive ++	200-400 500-1000 700-1100	24	No Inc.	Cerebral	Verapamil H ₂ Tissue	Clin. Improvement	
11	50	3 mos	Deep Headache Nausea Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive +++	200-400 500-1000 700-1100	44	No Inc.	Cerebral (General)	Salt Intramusc. (2) H ₂ Tissue N.E.	Marked Clin. Improvement	Convulsions after each dose Salvarsan
12	36	1 yr	Vertigo Headache Apathy	Negative	Den	Neg	200-400 500-1000 700-1100	28	No Inc.	Cerebral (Lateralized)	Salt Intramusc. (2) H ₂ Tissue	Doubtful	Treatment Abandoned by Patient
13	63	5 mos	Headache Nausea Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive ++	200-400 500-1000 700-1100	10	No Inc.	Cerebral Spinal	Salt Intramusc. (2) H ₂ Tissue	Unknown	Based Upon Observation
14	39	8 mos	Headache Nausea Apathy	Headache H. R. Pupils Tonic Vomiting	Adm	Positive +++	200-400 500-1000 700-1100	17	No Inc.	Tuberc.	Salvarsan and Serum (2)	Clin. Improvement	Re-education Exercises
15	37	1 1/2 mos	Headache Nausea Apathy	Headache H. R. Pupils Tonic Vomiting	Adm	Positive ++	200-400 500-1000 700-1100	16	No Inc.	Cerebral Spinal (General)	Salvarsan and Serum (2) Verapamil	Marked Recovery Progressing Spinal symptoms	Colloidal Gold Test - Positive
16	35	2 mos	Headache Nausea Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive ++	200-400 500-1000 700-1100	26	No Inc.	Tuberc.	Salt Intramusc. (2) H ₂ Tissue	No Improvement (Committed)	Colloidal Gold Test - Positive

Case	Age	Duration	Prom. Symp.	Clin. Findings	Status Epilepticus	Spinal Fluid				Glob. Clin. Type	Treatment	Results	Remarks
						W.B.C.	R.	Cells	Glob.				
17	39	1 year	Epileptic Convulsions Headache Apathy	Left Abnormal Slightly Right H. S.	Adm	Positive +++	200-400 500-1000 700-1100	31	No Inc.	Cortical	Intravenous Salvarsan H ₂ Tissue	Clin. Improv.	
18	31	2 yrs	Epileptic Convulsions Headache Apathy	Negative	Adm	Positive ++	200-400 500-1000 700-1100	29	No Inc.	Cortical (Lateralized)	Refused by Patient	No Improv.	Previous Series Intravenous Salvarsan No Results
19	35	1 1/2 yrs	Epileptic Convulsions Headache Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive ++	200-400 500-1000 700-1100	6	No Inc.	Cerebral Spinal (General)	Verapamil H ₂ Tissue N.E.	Marked Clin. Improv.	
20	31	1 1/2 yrs	Headache Nausea Apathy	Headache H. R. Pupils Tonic Vomiting	Adm	Positive +++	200-400 500-1000 700-1100	5	No Inc.	Spinal (Thrombotic)	Intravenous Salvarsan Verapamil H ₂ Tissue N.E.	Marked Clin. Improv.	Relief from Headache Lungs Strongly Head Hypertension After 2 mos treatment
21	17	Since 12 mos	Epileptic Convulsions Headache Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive ++	200-400 500-1000 700-1100	Not Obtained	Not Obtained	Cortical	H ₂ Tissue Verapamil H ₂ Tissue	Great Increase in Lateral Abnormalities	Brainwaves had been taken same disease 20 mos for 10 yrs
22	43	3 1/2 yrs	Headache Nausea Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive ++	200-400 500-1000 700-1100	0	No Inc.	Tuberc.	H ₂ Tissue H ₂ Tissue	No Progression of Symptoms for 2 yrs	Trace of Patient last 1912.
23	42	10 yrs	Headache Nausea Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive ++	200-400 500-1000 700-1100	Not Obtained	Not Obtained	Tuberc.	Refused	None	
24	28	5 mos	Headache Nausea Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive ++	200-400 500-1000 700-1100	Not Obtained	Not Obtained	Cerebral	H ₂ Tissue H ₂ Tissue	Clin. Cure	Well since Jan 1912
25	26	15 yrs	Headache Nausea Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive ++	200-400 500-1000 700-1100	Not Obtained	Not Obtained	Cerebral	Verapamil H ₂ Tissue N.E.	Clin. Improv.	Now under treatment
26	32	5 yrs	Headache Nausea Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive ++	200-400 500-1000 700-1100	3	No Inc.	Spinal (Thrombotic)	Verapamil	Pending	Now under treatment
27	45	6 mos	Headache Nausea Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive ++	200-400 500-1000 700-1100	Not Obtained	Not Obtained	Tuberc.	Salvarsan	Unknown	Based Upon Observation Consultation Case
28	35	2 mos	Headache Nausea Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive ++	200-400 500-1000 700-1100	Not Obtained	Not Obtained	Tuberc.	None	Died	Died in Convulsion few days after coming under observation
29	34	5 mos	Headache Nausea Apathy	Headache H. R. Pupils Tonic Vomiting	Den	Positive ++	200-400 500-1000 700-1100	Not Obtained	Not Obtained	Tuberc.	Salvarsan and Serum	Clin. Improv.	Colloidal Gold Test Positive (Consultation Case)
30	22	10 days	Headache Nausea Apathy	Headache H. R. Pupils Tonic Vomiting	Adm	Positive ++	200-400 500-1000 700-1100	Not Obtained	Not Obtained	Cerebral Nerve	H ₂ Tissue H ₂ Tissue	Unknown	Based Upon Observation etc. First visit

How shall we treat patients with syphilitic disease of the nervous system? Although we have comparatively few remedies there are many methods of applying them. It would lead us too far afield to discuss in detail various methods of treatment. From my experience I find it very valuable to institute a definite plan of treatment at the outset. First the patient is given a series of intravenous injections of Salvarsan, the dose of which depends upon the individual case. The length of time between injections varies from one to two weeks. In connection with Salvarsan the patient is given mercury preferably by inunction or by hypodermic administration which is, however, painful and, therefore, discouraging to the patient. I am impressed with the inefficacy of mercury by mouth. Careful directions must be given to the patient concerning personal hygiene, diet and habits. The use of potassium iodide is of doubtful benefit, contrary to long-established precedent. Sometimes its use appears to be actually harmful. If results are not forthcoming, as shown by abatement of clinical symptoms and more favorable laboratory reports, one should consider the use of intraspinal injections of Salvarsanized serum after the method of Swift and Ellis. This method seems to be of particular benefit in tabes. Two cases in my series had not improved under Salvarsan administered in other ways.

In conclusion, there is no doubt concerning the frequency of syphilitic disease of the nervous system, their non-recognition in many cases, their many disguises under which they masquerade, the failure to relieve them unless the cause is appreciated, and the brilliant results which frequently may be obtained, provided they are recognized early and treated thoroughly and systematically.

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INTRAVENOUS INJECTION OF BICHLORIDE OF MERCURY IN THE TREATMENT OF SYPHILIS.*

J. T. Stukes, M.D., Americus, Ga.

I began the administration of bichloride of mercury in August, 1914. I have given over six hundred injections in the treatment of thirty-six patients. I gave a course of mercury by intravenous injection, followed by a period of rest, then a course of Salvarsan, followed by a period of rest, lengthening the interval between the series of injections. These injections constitute my intensive treatment, which I do not continue very long after lesions have healed, when I begin the intramuscular injection of salicylate of mercury. Unless there exists renal or other grave organic disease, we may safely make the treatment intensive with either mercury or Salvarsan given by intravenous injection. The rapid healing of lesions and general improvement is impressive, and very clearly demonstrates the superiority of this method over the old method of mouth medication. Indeed, there is no longer excuse for a doctor who treats syphilis by the old method of mouth administration of so-called specifics. In most of my cases I begin injections by giving one-twelfth grain of bichloride per hundred pounds of body weight. In grave emergencies I begin with one-sixth grain per hundred pounds of body weight. There are many individuals who are very susceptible to mercury, and unless the condition is grave and indication for treatment urgent, I advise beginning treatment with first injection of not more than one-fifteenth grain and slowly increase with each subsequent injection until one-fourth grain is reached. I have given one-third grain and, in several cases, had considerable gastro-intestinal disturbance. I prepare a one per cent solution with freshly distilled water and keep in a glass-stoppered bottle. These injections are given every other day; in grave conditions every day until I detect symptoms of beginning ptialism, when injections should be discontinued for several days and resumed with a smaller dose on alternate days, or full dose every three or four days. I invariably give by mouth a small dose of some opium preparation with first several injections to guard against gastro-intestinal disturbance. Ad-

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

wise a visit to his dentist. Teeth should be kept in good condition, and cleaned daily with a soft brush. I also give patient a bottle of chlorate of potash in five grain tablets and direct that two tablets be crushed between teeth and allowed to dissolve in mouth and swallowed. Repeat three times daily; this will enable patient to receive more mercury and prevent serious mouth trouble, which is a very important consideration. A small rubber band, held by artery forceps, makes a good ligature. Site of injection is painted with tincture of iodine, and solution injected very slowly into blood stream. I use only all-glass syringe and sterilize same by boiling. There is little or no pain if injection is properly made in large vein at elbow or on forearm. I have had no infiltrations, abscesses or ulcers, but I occasionally have a vein to harden and later atrophy. Seeking to prevent this effect upon the veins I diluted solution with five cc of distilled water and injected very slowly, but had more hard veins than with the one per cent sol. On this account I now select one arm for mercury and the other for Salvarsan. With exception of four of my cases I have observed increased appetite, red corpuscles and body weight. Rapid healing of lesions and restoration of health inspires gratitude on part of patient and enthusiasm for intravenous injection of the specific. I am aware that I am very enthusiastic over the efficiency of treating syphilis by this method, and that enthusiasm often leads one into error. I once had confidence in atoxyl and cacodylate soda as antileptic agents. None of these "near-Salvarsan" arsenical preparations approach the efficiency of mercury or Salvarsan. We should not be deceived nor exploited. As an adjuvant to the mercury injection treatment I give iodide of potassium, a drug which aids in elimination of syphilotoxins and promotes the healing process. My debilitated and neurasthenic patients get the glycerophosphates with iron quinine and strychnine. My estimate of the efficiency of bichloride by intravenous injection is based on the results obtained in thirty-six cases of syphilis I have treated by this method. Syphilitics who received not more than several injections are not included, nor are many cases of parasyphilis of doubtful diagnosis, who were not able to pay for a Wassermann, Noguchi or treatment. I have given not less than one hundred intravenous injections of cyanide of mercury, quite

enough to convince me that it is less effective than bichloride. Twice I had pallor and faintness, with weak heart action, from the injection of twenty minims of a one per cent solution. The dose given by Chopping in treatment of eighty-four cases as reported in Sajon's, vol. 6, pg. 133. My experience with this drug prompts me to advise against its employment by intravenous injection.

The effect of the bichloride is tonic, increases the appetite and red corpuscles. The most brilliant result I have obtained with this drug was in a case of chronic syphilis involving the central nervous system. I gave this patient .3 gramme of Salvarsan every week until he had received three injections with negative results up to ten days after receiving last injection. Then I began bichloride, combating a desperate condition, forlorn and melancholy, slowly, with weak knees and tremulous, spastic legs he could walk only a short distance without rest. I gave one and three-fourths grain of bichloride in six injections. On account of slight ptialism, injections were discontinued for several days, then resumed. This man has received some forty or more of these injections. He also took chlorate of potash and the glycerophosphates by the mouth. He now walks half a mile to his business, and weighs 23 pounds more than when he began treatment. Another exceptionally brilliant result was obtained in a case of syphilitic dactylitis of the left hand. Patient had not been able to use this hand in three years. After the ninth injection the hand was well. In treating syphilis we should be mindful that the spirocheta acquires tolerance for, or some degree of, immunity against a spirochetacidal drug. This we have plainly demonstrated when we observe a drug losing efficiency after prolonged administration. This condition of drug fastness is a very important consideration, and suggests to me that this form of treatment should be administered with all the intensity consistent with safety. I shall not discontinue treatment without advising that a Wassermann and Noguchi test be made every year of remaining life. I feel that the impetus given intravenous injection should not recede, for by this method I believe that we shall make important advances in the therapeutics of many diseases. We are sometimes confronted by very grave emergencies which may be successfully treated only by intravenous injection. It is inexcusable in a doctor to neglect to acquire skill in intrave-

nous injection or to neglect to maintain the simple, inexpensive equipment required, nor would it be pardonable in a doctor to inject veins without observing a rigid asepsis. Asepsis is easily obtained by using only all glass syringes and sterilize by boiling the same in water.

THE DIAGNOSIS OF SYPHILIS AND "PARASYPHILIS" FROM THE STAND-POINT OF THE LABORATORY.*

By Allen H. Bunce, M.D., Atlanta, Ga.

With the discovery of the spirochaeta pallidum as the causative agent of syphilis by Schaudinn and Hoffman in 1905, with the application of the complement fixation phenomenon of Bordet-Gengou to the diagnosis of syphilis by Wassermann in 1906, and with the discovery of the Luetin test by Noguchi in 1912, the laboratory worker has been called upon more and more frequently to assist in the diagnosis of this most prevalent of all diseases. But while the laboratory worker may use all the knowledge and skill which it is possible to obtain in the working out of the various technical procedures he invariably insists that his findings should always be taken in connection with the clinical manifestations of the disease.

In enumerating the ways in which the laboratory may be of assistance in the diagnosis of this disease we will divide the subject according to the stages of the disease: (1) Primary; (2) Secondary; (3) Tertiary; (4) Latent; (5) Congenital, and (6) "Parasyphilis."

In primary syphilis the demonstration of the spirochaeta pallida in a suspected lesion eliminates all question of a doubt, and is the only absolutely infallible laboratory procedure in the diagnosis. Spirochaetae can be demonstrated in every chancre at some time in its development if sufficient time and care are taken to find them. In my experience, the fresher the chancre the more easily these organisms can be found. In other words, a chancre of only a few days' duration offers a much more favorable field than one of two weeks or longer duration. Another factor influencing the ease with which the spirochaete may be demonstrated is the treatment of the chancre before examinations are made. Chancres, which have had any kind of treat-

ment, present many more difficulties than those which have had no treatment at all. There are two direct methods of demonstrating the organisms in a suspected case: First, by the dark field illumination and, second, by preparing slides and staining them.

After thoroughly cleansing the chancre and wiping away all exudate a drop of clear serum is squeezed out and placed on a clean slide. If the dark field illumination is to be used, a cover glass is placed over this and the edges sealed with paraffin so as to prevent evaporation. When examined under the dark field spirochaetae pallidae may be found, showing typical morphology and motility. If no organisms are found upon the first examination and the lesion is at all suspicious, further examinations should be made, for if the lesion is syphilitic it will not fail to show its characteristics. When it is not convenient to use the dark field illumination smears are made from the serum squeezed from the chancre and allowed to dry in the air at room temperature. After being fixed for two hours in methyl alcohol they are stained for twelve to twenty-four hours in Giemsa's stain prepared by adding one drop of stain to each cubic centimeter of distilled water (about thirty c. c.) and one drop of 1 per cent potassium carbonate for each 10 c. c. of water. This is the method described by Captain Nichols, of the United States Army Medical Corps, and is by far the best staining method I have used.

During the last eighteen months I have examined twenty-one suspected lesions. In seventeen of these spirochaetae have been found by either the dark ground illumination or stained specimens. In a number of these both methods were used with success. Several were found positive in chancres of only a few days' duration, and before there was any glandular involvement and while the Wassermann was negative. The shortest period in which spirochaetae were demonstrated after the appearance of the primary lesion was three days. Of the four cases which were negative, two were in chancres of more than three weeks' duration, where various caustics and acids had been used. Both of these showed positive Wassermans. The remaining cases have proved, so far as I have been able to determine, non-syphilitic.

Wassermans have been done on 32 primary cases, but these do not include all those where smears were made from the primary lesion. Of this number 20 showed some de-

gree of positivity, while 12 were negative.

Of 90 cases of secondary syphilis 89 were positive, while only one was negative to the Wassermann.

72 cases of tertiary syphilis showed 70 positive and two negative.

21 latent syphilitics showed 15 positive and 6 negative.

32 congenital syphilitics showed 27 positive and 5 negative.

79 cases of parasyphilis, including tabes, general paresis and cerebro-spinal syphilis, 44 were positive and 35 negative.

All cases, which had received any recent treatment, were included under the heading "treated cases." Tests were done on 180 of these. 106 were positive and 74 negative.

Provoeative Wassermans were done on 27 cases, 20 being positive and 7 negative.

In all those cases where the blood was sent to the laboratory without any history of the case they were classified as "cases whose history was unknown." 356 of these showed 200 positive and 156 negative.

Tests were done on 231 persons where syphilis could be excluded with a reasonable degree of certainty. 7 of these showed a very slightly positive (+) reaction, 5 a slightly more strong positive (++), and 2 a (+++) positive. None of these cases showed a 4 plus positive. Of the 2 cases showing a 3 plus positive, 1 was a case of acute malaria, and 1 a case of pernicious anemia.

In these 1,120 cases on which Wassermanns were done the same technique has been used throughout. In all cases possible the blood was obtained under aseptic precautions from one of the superficial veins at the bend of the elbow. The serum was used in the fresh state without inactivation, except when it had to be inactivated on account of being anti-complementary. A few specimens were obtained which showed thermo-stabile anti-complementary properties. The anti-human system, as described by Noguchi, has been used throughout. Acetone insoluble lipoid antigen made from heart and liver tissue (human and beef) has been used. A number of tests were done by using antigen to which cholesterin had been added, but these were always controlled with the regular antigen.

No cases have been included as syphilitic in any of the stages except those which were definitely decided to be syphilitic by the clinician in charge after having the laboratory findings and clinical examinations before him.

TABLE NO. 1.

	No.	xxxx	xxx	xx	x	—	% Pos.	% Neg.
Primary	32	4	5	5	6	12	62.4	37.6
Secondary	90	63	23	4	2	1	89.9	1.1
Tertiary	72	34	21	8	7	2	97.3	2.7
Latent	21	3	3	6	3	6	71.5	28.5
Congenital ...	32	4	6	13	4	5	84.4	15.6
Parasyphilis ..	79	16	11	14	3	35	55.7	44.3
Treated cases...	180	20	25	36	25	74	58.9	41.1
Provoeative Wassermanns..	27	10	5	3	2	7	74.1	25.9
Cases whose history was unknown	356	50	78	60	12	156	56.2	43.8
Neg. cases	231	0	2	5	7	217	6.	94.
Totals	1,120	201	179	154	71	515	54.1	45.9

SYPHILIS OF THE STOMACH AND INTESTINES WITH REPORT OF CASES.*

By Dr. L. C. Fischer, Atlanta, Ga.

Syphilis of the stomach and internal organs is, I am sure, a much more frequent condition than we have ever recognized. Having had in the last few years three cases of tumors in the internal organs, two of the stomach and duodenum, and one of the cecum and ascending colon to get entirely well following exploratory operations, where the condition was thought to be inoperable at the time, convinces me that it is possible that there are more of these conditions than are recognized.

The diagnosis at operation in two stomach cases was macroscopically, inoperable carcinoma of stomach, small intestines, and in the first case involving the under surface of the liver. The second case was inoperable sarcoma of the cecum. While it is true that syphilis is recognized by its many external phenomena, chancre or the initial lesion appearing most usually on the genitalis, lips and hands, or in some one of the more accessible cavities of the body, as the mouth, the vagina or the rectum. It is none the less true that it attacks the deeper structures. While not as frequent, certainly as severe. While the external lesions are more easily recognized, we can be none the less sure of our diagnosis in disease of the deeper structures. Indeed, with the Wassermann reaction we can be even more positive of the presence of syphilitic infection. While the diagnosis in all of my cases was largely accidental, the report of them will, I hope, lead to a more careful investigation of the many inoperable conditions of the stomach espe-

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

cially, and the many internal organs. The literature on this subject I have found is, indeed, meager, which goes to make the report on these cases doubly interesting. While syphilis of the stomach has been recognized since 1834 and several hundred cases reported by special investigators, the general information offered is rather limited, most authors merely mentioning such a condition.

From the cases that it has been my pleasure to see it does not seem possible to recognize the difference macroscopically, and certainly you can not differentiate functionally from ulcer or carcinoma; however, in both of my cases the gastric contents showed the presence of free acid. The other general symptoms, such as hemorrhage, loss of weight, vomiting, retention of food and formation of tumor are practically the same.

Syphilis of the stomach is said to occur, or rather to manifest itself, in the third stage of the disease. Manifestations resembling chronic gastritis seems to be the first symptoms. With tumor formation in both of my cases, they developed the usual symptoms of pyloric stenosis, retention, vomiting, etc., or the same symptoms you would expect from cancerous conditions. I find no characteristic symptoms in gastric syphilis differing from affection of the stomach in other diseases, sufficient to enable one to make a differential diagnosis, or to attract unusual attention to syphilitic conditions. Dr. William Gerry Morgan, of Washington, D. C., has recently written a long and valuable article reviewing the work of various investigators, especially Chiari and Stalper, in which they find in post-mortems four cases of gastric syphilis in 329 autopsies upon syphilitics, which gives 1.29 per cent of stomach involvements in the series. Ewald states that probably 10 per cent of all cases of ulcer of the stomach are of syphilitic origin. This estimate, according to Chiari and Stalper, seems high, and Morgan, in his series, seems to think that 1 per cent would show a syphilitic taint. He reports eight cases that are indeed interesting, some of them having passed through the hands of such men as Kelly, Deaver, Wellington and others, and pronounced inoperable carcinoma; after which the Wassermann reaction was made and resulted positive, Salvarsen being given and the patient greatly improving or entirely cured.

The onset of syphilis of the stomach seems to be much more severe, the symptoms in-

creasing more rapidly than in any other of the grave conditions of the internal organs. The only possible diagnosis of syphilitic conditions of the internal organs is a Wassermann test before operation, or afterwards, from the anti-syphilitic treatment. Such conditions as I am now reporting have caused me to make a positive rule in my work, that in all doubtful cases, to have a Wassermann test made before operation. While at operations I was unable to give the patient any relief from the pathological conditions as I found them, at the same time had not the explorations been made the termination would doubtless have been fatal in all of my cases. The diagnosis in my work, the same as most cases reported, was accidental, the recovery of the patient being due to an anxiety to do something to relieve them. My earlier teachings, especially by my preceptor, Dr. C. D. Hurt, was called vividly to mind when I remembered his instructions, "That in all cases where other remedial agencies failed, to try alteratives, and that iodide of potash and mercury were two of the best." It was my determination to try these that these patients were restored to their present good health.

Case 1—Miss E. H., 45 years of age. Health has always been good up until November, 1912. Family history negative. She consulted me April 1, 1913, stating that for some months she had suffered with indigestion, pain in her epigastrium radiating into the right side. Said that she was unable to digest her food, and after several hours she would invariably vomit the stomach contents, which were often stained with blood. She was chronically constipated and had been for months, very much emaciated, weighing at the time 100 pounds. When admitted to the Sanatorium April 14, 1913, her pulse, temperature and blood pressure were normal. There was a distinct mass just to the right of the median line, extending along the margin of the ribs on the right side down to McBurney's point. On April 16th, the abdomen was opened, when I found a large mass in the pyloric end of the stomach, infiltration in the greater and lesser curvature almost to the cardia; duodenum was infiltrated for practically its entire length. There was thickening in the gastro-hepatic ligament which extended up to the transverse fissure of the liver. The omentum was firmly adherent over the anterior surface of the entire area. After dissecting this free the con-

dition was considered inoperable carcinoma of the stomach and duodenum. The abdomen was closed. She was three weeks in the Sanatorium. After going to her home she was given increasing doses of iodide of potash, with one-quarter grain of proto-iodide of mercury three times daily, which was continued for more than a year. The mass gradually disappeared, until now there is no abnormality that can be found by palpitation or percussion; the fluoroscopic examination shows the stomach to be in a practically normal condition. From the time that she left the Sanatorium to the present, she has rapidly improved until she now weighs 148 pounds and eats any and all food, suffers no pain or inconvenience.

Case No. 2—The case of sarcoma of the cecum, ascending colon and ilium was a young man of 32 years old. Father living at the time, but has since died of apoplexy, aged 64. Mother died of child birth at the age of 40. Three sisters living; one died in infancy. Three brothers living, all in good health. Mother had two miscarriages. His wife has had three. He had the usual diseases of childhood. Was operated on for an inguinal hernia by the writer in the early part of 1908. On November 9, 1908, he came to me suffering with intense pain at McBurney's point. There was a mass that filled the entire inguinal region, extending up almost to the margin of the ribs; an operation was advised. On November 10th, his abdomen was opened. There was a large mass which included about 8 inches of the ilium, the cecum and appendix and extending up the ascending colon about four inches. The abdominal peritoneum was adherent anteriorly, laterally and posteriorly; after examination and the macroscopic appearance decided the condition was inoperable. In my manipulation caused quite an amount of oozing; it was necessary to pack around the mass with iodoform gauze to stop this, leaving drainage in. I had promised the patient that in the event I was unable to remove the mass and thought that he would die, I would send him home from the operating-room; an ambulance was called, and he was removed to his home in the city. He reacted well. After four days began anti-syphilitic treatment, which was done with the idea of possibly absorbing the mass by the use of iodide of potash and mercury. He made a rapid recovery and the mass disappeared so rapidly that I kept him on the treatment for

months. As soon as he was better and able to return to work he discontinued his treatment. Four months ago he had a large ulcer on the anterior surface of his leg, which, at the time, I thought was syphilitic. He was again put on iodide of potash and mercury, the ulcer healing rapidly. I have just had Dr. A. H. Bunce make a Wassermann test for me of this patient, which proves negative. (Bunce's report.) "The blood of your patient, Mr. T. J. K., gives a negative reaction to the Wassermann test for syphilis. However, in examining him physically I find a large scar and discoloration on the anterior portion of his left leg, the result of a chronic leg ulcer—apparently specific. He also has enlarged posterior cervical lymph glands." Three months after the operation the mass could not be palpitated. He returned to his work as a railroad engineer, has worked steadily at this since, and is, to all appearances, in perfect health.

Case 3—Mr. A. B. H., a young man of 36 years of age. A machinist by trade. Has always enjoyed good health; gives negative history of venereal diseases. Had the usual diseases of childhood, typhoid fever about 20 years ago. Father died at the age of 44 with typhoid fever. Mother died at 48 following an abdominal operation which he thinks was possibly for malignancy of the uterus. One brother and one sister living; both in good health.

He is the father of four living children, the oldest 15 and the youngest 5. Wife has had one miscarriage. In 1912 he had an abrasion on the back of his wrist, which in some way became infected, he thinks possibly from using a hand scrub brush in a public bathroom. This healed slowly, taking approximately three months to get well.

In November, 1914, about Thanksgiving he began to suffer with indigestion. Weighed at that time 148 pounds. Complained of an intense pain in the epigastrium radiating into the right side over the gall bladder and appendix. Much constipated, which almost amounted to obstipation. He was unable to take any food without causing intense pain. Water causing practically as much pain as any form of nourishment. This pain having gotten worse a few days previous to consulting me, December 12, 1914.

Upon examination I found a mass in the epigastrium extending out over the gall bladder, which was very painful on deep pressure. He was pale and somewhat emaciated,

weighing at that time about 126 pounds, having been unable to take nourishment for more than two weeks. His blood pressure was 112, temperature 98.2-5, pulse 100, blood count, white cells 8,100, Hemoglobin 80 per cent, small mononuclear 19 per cent, polymorphonuclear 69 per cent, large mono 8 per cent, and transitional 4 per cent. The stomach examination made by Dr. J. C. Johnson, a report of which is a part of my paper, "showing the presence of acid, was negative for ulcer by the thread test. Fluoroscopic examination showing that after five hours meal Bismuth residue in stomach. Sediment meal negative. After full Bismuth meal stomach is of atonic type and ptosed three inches below umbilicus. Peristalsis is feeble. The gastric outline shows no defect—pylorus lies to right of the umbilicus. Gall bladder area negative."

Operation December 31, 1914. Found a mass in the pyloric end of the stomach extending along the greater curvature, infiltration of practically the entire stomach wall, also the entire course of the duodenum and for about 12 inches of the jejunum, macroscopically it had every appearance of carcinoma. It would have been impossible to remove the great amount of tissue involved. The condition seemed so serious that a gastro-jejunostomy seemed inadvisable. The abdomen was, therefore, closed, leaving in sterile sweet milk to prevent adhesions. On January 9th he showed very little improvement. I had Dr. Bunce make a Wassermann test, which proved positive. On January 15th, gave the first dose of Salvarsan. Dr. Bunce's report is as follows:

On January 9th, of this year, I did a Wassermann Reaction for syphilis on your patient, Mr. H., at the Davis-Fischer Sanatorium, which showed a positive reaction.

On January 16th I did a provocative Wassermann on Mr. H. after you had given him a dose of Salvarsan on the previous day. This test was still positive.

As Pathologist to your Sanatorium, I was present at the time you performed an exploratory operation on Mr. H. and saw the macroscopic appearance of his stomach and intestines. The gross appearance of the pyloric portion of his stomach and intestine for a number of inches leading from the stomach was certainly that of a malignancy. No tissue was removed for a microscopic examination."

Since January 16th, this patient has had

three doses of Salvarsan, each dose being 0.60 of a gram. He left the Sanatorium on February 1st. By February 15th the mass in his side had entirely disappeared and he had resumed his position as superintendent of a large car plant. He left the Sanatorium weighing approximately 120 pounds, but now he weighs 149. Is able to take any food and is doing his regular work. Three days after the first dose of Salvarsan the pain in his stomach and abdomen entirely disappeared. He has had none since. While a Wassermann test was not made on the first two cases, I am positive of the diagnosis, as anti-syphilitic treatment, was responsible for a permanent recovery. It has been long enough since the operation was done upon the first two patients to convince me that they are entirely and permanently well, as the result of anti-syphilitic medication. An X-ray examination was made in the last ten days by Dr. George M. Niles, of the stomach of case No. 3, which shows the stomach still slightly ptosed, very active and no evidence of abnormality, other than ptosis.

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“VENARSEN.”*

By **E. P. Merritt, M.D.**, Assistant in Urology, Atlanta Medical College and Urologist to Atlanta Anti-Tuberculosis Association, and **C. C. Aven, M.D.**, Chief of Clinic, Atlanta Medical College.

Venarsen, according to the formula on each ampule, is a solution containing 3-3.4 gr. metallic arsenic, 3-250 gr. metallic mercury per ampule.

For administering Venarsen an all-glass syringe of 10 CC capacity is preferred. The neck of the ampule is broken and its contents drawn into the syringe and this is put into one of the superficial veins near the bend of the elbow, after having sterilized the site of injection with iodine and alcohol. A tourniquet around the arm makes the veins stand out more prominently and facilitates penetrating it, but this should be removed before starting the injection. We always inject the solution very slowly so as to allow it to mix with the blood.

Before beginning the administration of this product we had ample proof furnished us by the Intravenous Products Company that it was only slightly toxic, and that it could be administered with perfect safety. Therefore, we felt that we were justified in its administration to a certain number of carefully selected cases at the Clinic of the Atlanta Medical College. We selected 35 cases for this purpose, and these cases have received no other treatment, except Venarsen, hence we feel that whatever improvement we have obtained in any of these cases has been due to Venarsen. However, all of our cases did not show improvement, as will be seen by the report of the following cases. These case histories are selected from the 35, as they are believed to represent typical case histories after administering the preparation:

Case 3,078: Male. Age 44. White. Married. Occupation, electrotyper.

Came under observation February 1, 1915. Family history negative. Past history negative with reference to all venereal diseases.

Chief complaint numbness around lower border of chest. Area of anaesthesia over eleventh dorsal nerve. Exaggerated on left side. Sharp shooting pains in legs two months. On first arising from sitting position has hesitancy in walking. Rhombberg's

sign present. Progressive loss of weight for several months. Fatigue on exertion. Insomnia. Loss of appetite. Suffers from constipation. Has poor control of sphincters. No external evidence of syphilis on inspection. Wassermann test by Dr. A. H. Bunce positive (xxxx). Hemoglobin 75 per cent. Red blood cells 3,900.00. White cells 7,800. Blood smear picture normal.

Reflexes: Argyll-Robertson pupil negative. Knee-jerk on left side absent. Right side present on reinforcement.

Diagnosis	Tertiary Syphilis
February 8th.....	.3 gram Venarsen
February 11th.....	.6 " "
February 15th.....	.6 " "
February 19th.....	.6 " "
February 23rd.....	.6 " "

On March 22nd, much improvement seen. Gained 10 pounds in weight. Appetite much better. Less easily fatigued. Insomnia entirely relieved. Cessation of all pains. Area of anaesthesia decreased. Less dribbling of urine. Complete control of anal sphincter. No change in habit of diet and no other medicine of any kind given.

Case 3—Male. Age, 18. White. Single. Occupation, loafer. Family history negative.

Patient's history. This case gives history of one year's duration. Came to college clinic year ago with macular syphilitic eruption. No chancre present at that time. But syphilitic rectum was present, consisting of mucous patch extending around rectum the size of the palm of the hand. He was at once given, at that time, 0.4 gram. Salvarsan. Within a week from that time the eruption and mucous patch had entirely disappeared. He left Atlanta then.

Patient returned to clinic on February 10th of this year with the same condition as at previous time with the exception of the eruption.

February 19th.....	.4 gram Venarsen
February 27th.....	.5 " "
March 3rd.....	.6 " "
March 6th.....	.6 " "
March 11th.....	.6 " "

There was no improvement whatever in the patient's condition. From the first dose of the medicine he had a light reaction, consisting of slight nausea and dizziness, which soon passed off. Patient was put on mixed treatment at this time, March 16th, and has not returned to clinic since.

Case 3,666. Age, 45. Male. White. Married. Occupation, policeman. Chief com-

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plaint, rheumatism in all his joints since July, 1914. Unable to work since that date. Family history negative.

Patient's history: Gonorrhea six years ago. Denies any other venereal disease. For some time he had pyorrhea alveolaris, for which he was treated at the Atlanta Dental College Clinic some time ago. Had ulcers on both legs twelve years ago, which lasted twelve months. No external evidence of syphilis. Slightly enlarged prostate. Wassermann test by Dr. Bunce positive (****). February 11th..... .6 gram Venarsen
February 16th..... .6 " "
February 19th..... .6 " "
February 22nd..... .6 " "
February 24th, Wassermann still positive (***).

February 26th..... .6 gram Venarsen
March 1st..... .6 " "

Patient improved after each administration. First came to clinic on crutches. After the second dose came with a walking cane. On March 11th was able to return to his duties as policeman after being away from them since last July. On March 11th Wassermann test still positive (***).

Case 5,144. Male. Age, 27. Negro. Occupation, carpenter.

Patient came to clinic on 2-2-15 complaining of soreness and aching in joints all over body. Sore throat and stiff neck.

Family history negative. Had sore on penis in September, 1914, but had no physician treating him for it. It got well spontaneously. Denies having rash, but still has marked evidence of it at this time. At present had headache, cough, soreness in chest, stiffness of joints. Has enlarged cervical glands. Left epitrochlear palpable and inguinal glands enlarged. Patient says the pains are worse at night and his body feels as if the bones were sore. Showed tenderness over sternum and over tibiae.

Lungs negative. Heart negative. Arteries show some hardening. Has lost 20 pounds in four months.

February 4th..... .6 gram Venarsen
February 11th..... .6 " "
February 18th..... .6 " "
February 24th..... .6 " "

On March 14th patient had gained 15 pounds and symptoms had improved a great deal.

The above are typical case histories of patients we have treated at the clinic with Venarsen. In no patient was any other form of

treatment used while we were giving this preparation. Of the 35 patients treated with this remedy 4 showed no improvement; 10 showed slight improvement; 21 showed marked improvement.

Conclusion.

Communication from the Council on Pharmacy, American Medical Association, gives the formula of Venarsen as follows: Cacodylate of Soda, 3 3-4 Grain; Mercuric Iodide, 1.80 Grain in 5 C.C. solution.

In bringing this important subject before our brother practitioners we do it for the sole reason that they might know what to expect when or before administering this preparation. You have heard the case histories. You have heard the results after the preparation was given. There is one thing that we will say in conclusion, that is the preparation can not compare with Salvarsan, as far as the therapeutic value is concerned in treatment of syphilis. It has its merits, which has been shown. We leave the subject with you for your careful study and consideration.

DISCUSSION ON THE PAPERS OF DRs. GAINES, STUKES, BUNCE, FISCHER AND MERRITT.

DR. J. T. STUKES, Americus: In regard to Venarsen, I have tried it in four cases. I have treated two cases of syphilis with it, one case of para-syphilis, and one case of anemia. The fact that the preparation consists of 5.250 of a grain of metallic mercury does not entitle it to consideration as a mercurial preparation. A dose of 3.250 of a grain of metallic mercury, given for six days, is a therapeutic absurdity, and it is not entitled to consideration.

As to the Venarsen preparation given intravenously, that is different. Nine grains of cacodylate of sodium, and a dose given every six days, makes it a preparation of some little therapeutic value. I was told that the doctor made a mistake and gave a dose of it every day consecutively for several days. If it has no more arsenic than that, without any toxic effect, any preparation given five or six times and prescribed in such doses without any toxic effect would suggest to me inefficiency, and that looks like therapeutic absurdity.

DR. C. L. RIDLEY, Hillsboro: In regard to the paper of Dr. Fischer, I recall two cases

of syphilis of the stomach I had some years ago. This was before the use of Salvarsan. We only had then iodide and mercury to fall back on.

The first case was that of a negro, 35 years of age, with a diagnosis of cancer of the stomach having been made. He vomited quite a little, was very much emaciated, and could hardly retain any food. After getting the family history and going over it carefully, there was one thing that attracted my attention, and that was the loss of one eye. On inquiry I found this eye became sore and finally went out. I made a careful examination and found tertiary syphilis. The patient was put on gradually increasing doses of iodide and protoiodide of mercury, and in the course of three weeks he was able to be up, and in six months he was a different looking man. At the end of a year's time he was in good shape. He is still in splendid physical condition, but whether he has had the same treatment or not I do not know.

The next case was in a younger negro, who was in the early tertiary stages of syphilis. He was absolutely unable to retain anything on his stomach for ten days. He vomited everything he took. I administered iodide of potassium and mercury in this case, and after the administration of the first dose he did not vomit any more; went right along and apparently recovered.

DR. WILLIAM L. BALLENGER, Atlanta: In regard to Venarsen, I would like to say my experience has been like that of Dr. Merritt, unfavorable. It did not do very much good in cases of clearly outlined syphilitic conditions. Cacodylate of sodium is inferior to the mercurial preparations, especially the salicylate of mercury. You take a clearly defined and uncomplicated chancre, and it seems is not benefited by the remedy. Patients show an increase in size of the sore under active treatment. It does not have any influence on the active secondary rash. It is not reasonable to hope we can get very much benefit from this remedy, and I believe we should stick closely to the things we know are good, except in testing it out, as Dr. Merritt has done, and I am glad he is testing it out. A good many men have written me as to what effect it has, and I was unable to say very much in favor of it. I am glad to have heard Dr. Merritt's unbiased report.

DR. A. L. FOWLER, Atlanta: I did not use Venarsen at first, as Dr. Merritt did, in

our clinic. I had some samples in my office and decided to use the remedy since he told me he got some good results from it. Since that time I have used it in four cases. In three it seemed to do a great deal of good. In one case it did absolutely no good, so far as I could determine. I put the man on the old standard protoiodide of mercury treatment, and he made good progress. I have seen these cases do the same on Salvarsan after giving them four or five or six treatments. In some cases it seems to accentuate the condition, so I was not surprised at that, but I do not think we ought to condemn Venarsen without going further into it and allowing it to prove its own value.

Regarding the Wassermann I would like to say a few words, because if we do not get the opinions of different men about these subjects we go along in the dark, no matter what the subject may be.

I remember very well when Salvarsan first came out, and I was in Paris at the time. I became interested in the Wassermann reaction, and I hid myself with another doctor over to the Pasteur Institute where we met the distinguished Metchnikoff, and I asked him what he thought of the Wassermann test, and he asked me what I thought of it. I told him I had no particular view regarding it. I had not looked into it, and was not able to give a satisfactory reply, and he said to me, "You know as much about the Wassermann test as anybody I have ever seen."

He said, "I do not understand the Wassermann, and I do not think any one else does." He had seen many cases of macular eruption with mucous patches in the mouth, and with the initial lesion on the genitals, presenting as pretty a picture of syphilis as one could see, and yet those cases gave a negative Wassermann.

I do not think a man has syphilis unless I can find the organism after staining and examining the specimen under the microscope, and by the laboratory man telling me that it is a positive Wassermann reaction.

I have had in my own practice at the Grady Hospital and in my private practice cases that were typical of syphilis, and yet the laboratory man would send me back a report of negative Wassermanns when it was absolutely typical syphilis. I mention this to give you another angle because it makes these papers more interesting.

DR. ASBURY HULL, Augusta: I have used Venarsen in ten cases. In one case it

gave beautiful results. A case was referred to the eye clinic with interstitial keratitis. This patient was put on Venarsen, and at the end of seven days she was able to go around the room without bumping into anything, and her general condition has materially improved with the improvement in the eye. This child, 12 years of age, had a full plus Wassermann, and presented the classic picture of secondary syphilis with the interstitial keratitis at the same time.

Of the other cases there is only one that seemed to improve at all. The other eight cases have been without any treatment. This one case was a case of tertiary syphilis, with a double plus Wassermann, in which, after eight doses, there was improvement. The Wassermann has not been repeated, so I do not know whether there is any curative value or not from this remedy. The preparation seems to have some effect, but it is not anything like as efficacious as Salvarsan.

The paper of Dr. Bunce deserves consideration, and emphasizes the fact that we should pay more attention to the diagnosis of syphilis and when the case should be dismissed as cured. Many cases are dismissed before they are cured, and a great deal of the later trouble in syphilitics is due to the fact that they are dismissed on the clinical evidence without the painstaking care on part of the laboratory.

DR. W. L. CHAMPION, Atlanta: In regard to the use of Venarsen, I thought I would try it out and see what there was in it. My experience has been with only two cases, and in those there was no improvement whatever from the use of it. One of these cases Dr. Merrit spoke of in which there were mucous patches around the anus. This case was given three or four or five doses without any improvement whatever.

The other case was a negro with a macular eruption of syphilis and mucous patches in the mouth, who received three or four doses without any improvement.

A gentleman advertising this preparation made the statement that I was using his Venarsen. I have not used it sufficiently to form an opinion as to its benefit. However, it is worth while to try it out, and the clinic is the place to try it. I would not care to use it in my private cases. I am sure it will not take the place of Salvarsan.

The cases reported by Dr. Fischer illustrate conclusively the value of the Wasser-

mann test. It is hardly probable that if he had made a Wassermann test in these cases before he operated on them, he would not have operated; that is, after he had administered Salvarsan or anti-syphilitic treatment. I understand he did not have a Wassermann test made before operating on them. I am not criticizing Dr. Fischer at all. These things happen to any man who does operative work, but it certainly brings out the point that in these cases if we examine the various organs of the body in which syphilis is apt to produce a pathologic condition, and if we will look into them carefully, we will probably save operation.

I recently had the case of a policeman who had a stricture of the rectum with ulcers in the rectum. He had apparently an irritable ulcer in the grasp of the sphincter. He had been away from his work for six or eight weeks. He was miserable, and he was anxious to go back to the hospital to have the stricture cut. I gave him a full dose of Salvarsan, and in seventy-two hours all pain was relieved. I repeated the dose in ten days, and in three weeks from the time of the first dose he was apparently well.

In regard to Dr. Fowler's statement about finding spirochaetes frequently in cases of chronic syphilis where patients have pains in certain localities due to this disease, I would like to say that where you can obtain a specimen to look for the spirochaete, in these cases the Wassermann test will show up the trouble and the patient can be relieved. My rule has been to get blood from the patient and send it to a pathologist, and I can tell as a rule whether the examination is worthless or not. I can take the blood of a patient with the other evidences of syphilis and send it to the pathologist and it will come back positive, I believe, in 95 cases out of 100. I do not put too much reliance in a negative Wassermann. Patients come to us who have had anti-syphilitic treatment, and this would make it negative. However, it is the consensus of opinion of the best men that there is something to the Wassermann test.

DR. C. W. GOULD, Atlanta: No one knows anything about the Wassermann test actually, the specific test, because the antigen used is merely the extract of muscle or of other tissue, and, therefore, it can not be an actual specific test. In fact, an emulsion of spirochaetes will give as good results as a Wassermann test where the antigen is made from the muscle of the heart or from kidney

tissue or from the liver, but the Wassermann test must be valuable because of the brilliant results men get from its use.

I have been interested in the work of one of the internists in Atlanta, who, I believe, has a Wassermann done on almost every case he examines. He has had brilliant results where other men have failed, and in the obscure cases which have been under the care of many physicians he has secured excellent results in the treatment of these cases that other men have not obtained because he has always made use of the Wassermann test, and has treated his patients accordingly, in this way getting excellent results.

I agree with Dr. Bunce that the treatment of syphilis should be watched by the Wassermann test. It is the only thing we have after the initial lesions and secondaries, and if you get a large number of negatives you are all right. Occasionally the blood will come back positive after the patient has been treated; therefore, the patient should be watched for quite a while.

DR. W. B. EMERY, Atlanta: I want to say a word or two in regard to the paper of Dr. Bunce, and that is simply this: When we have a Wassermann test come back positive and we have the clinical signs of syphilis it is a comfortable feeling. But when we haven't the clinical signs, using our judgment or clinical ability or diagnostic ability, and being thoroughly convinced that the patient has syphilis, and the Wassermann test comes back negative, I pay no attention to the Wassermann whatever. The point is this: We should not depend entirely upon this test at present, but it is the best thing we have. We should not sacrifice our diagnostic ability and all our training by believing that a man has not syphilis simply because the pathologist says so. There is no question about the value of the Wassermann reaction; at the same time we must keep it in its place.

In regard to the paper of Dr. Merrit it is of inestimable value. It is one that we should not look over in a careless way, for the reason we constantly have proprietary and new medicines thrust upon us, and it is wrong that we should be imposed upon in this way, and yet if we are imposed upon by being told that this is the medicine for us to use, we should have sense enough to turn it over to some man who has a clinic where he can try it out, and give us the results of his observation and experience. Dr. Merrit has tried Venarsen out on a certain number

of cases, and there is no telling how many lives he may have saved from the work he has done. The point is this: Do we believe this medicine is a cure for syphilis? Many a practitioner will try it, and continue to try it and perhaps may not get good results, and will lose his patients. He may have bad results. There is no question about it being a good drug, in a way, but unquestionably it is not a cure for syphilis. The doctor has given us data to that effect, and we must thank him for it. We should appreciate his work. After he has gone through the preliminary work, as it were, and has tested this remedy and found it is not of any particular value whatever except as an auxiliary drug in the treatment of this disease, we should commend him for the work he has done.

DR. A. H. BUNCE, Atlanta: In reference to the paper of Dr. Gaines concerning syphilitic disease of the nervous system, the series of cases he has brought before us shows the importance of looking into each and every case carefully from every standpoint. He has gone into these cases carefully and has not only considered the clinical history and physical examination made of the blood and of the spinal fluid. In this class of cases he has something to guide him which the average man has not got with reference to the point whether or not they are syphilitic. In the average cases of late or tertiary syphilis you have a Wassermann test of the blood to say whether it is positive or negative, and you have that only in the absence of other symptoms. Dr. Gaines, instead of having a cell count made and a globulin estimation, also, has been able to determine whether or not the spinal fluid is reduced in Fehling's solution. He has more things to put together, no one of which would enable him to make a diagnosis by itself, but all taken together would enable him to make a correct diagnosis in these cases.

We know that normal spinal fluid should be under certain pressure; it should be 80 or 90 millimeters of water under pressure, and in withdrawing blood he can test any increase of the pressure. The spinal fluid should be crystalline in appearance. So much for the diagnosis.

In the preparation of the salvarsanized serum, the amount of the Salvarsan in the blood forty-five minutes after the injection of the Salvarsan is very small. Some of the work done shows that normal serum, when injected into the spinal canal, will benefit

some of these cases. Normal serum has been injected in many cases, and this serum before it is injected, is heated to 65° C., shows it to be inactivated. Inactivated serum gives a Salvarsan content and benefits these cases.

In cases of incipient tabes, with lightning pains, absence of knee-jerks, he has been able to obtain remarkable results. These cases received repeated doses of Salvarsan intravenously, and over long periods of time, and still have other troubles. The improvement in gait and leg pains are two of the most prominent symptoms in these cases. In addition to giving salvarsanized serum, bichloride of mercury is sometimes administered intravenously, and where one gets a negative blood count it is given intravenously, and beneficial results have been reported.

Dr. Stukes injects mercury into the blood stream itself, not bichloride of mercury, but it is the albuminate of mercury. If you put bichloride of mercury in there you get a cloudy serum, but in the excess of albumin this becomes soluble. What he gives his patients is simply the albuminate of mercury. There is an excess of albumin present that is dissolved, and he gets the albuminate of mercury in that way. That is what we get in injecting bichloride of mercury intravenously.

DR. McCURRIE: I want to speak on this subject from the standpoint of a country practitioner, particularly with reference to recent treatment and the new remedies for syphilis.

Years ago I had a good deal of practice among the turpentine operators and lumber men, and during that time I had four or five hundred negroes to look after, and among them there was quite a number of cases of syphilis. It was before these new remedies were brought to the attention of the profession. At that time I gave the old treatment of iodide of potassium and protoiodide of mercury generally. I can say this much: I have had good results from the old-fashioned treatment, and I do not want you to forget the idea that, in going after new remedies, the old ones that are still in existence are very beneficial and good ones to use.

I have been called to see cases that I could not diagnose. I did not know what was the matter with them. I thought probably they had syphilis, and have given them anti-syphilitic treatment and they got well. There is no affection that will yield to treatment

like syphilis, whether you use Salvarsan or not. The old line of treatment will give you good results.

One of our professors told us when I was going to school that if we came across a case that we could not diagnose satisfactorily, give the patient iodide of potassium. The principal objection to giving the old treatment by the stomach is that it sometimes nauseates the patient. The point I want to impress upon you is this: When you can not get Salvarsan and can not use it without fear of skepticism, as well as Venarsen, which has been spoken of, remember you can give iodide of potassium, bichloride of mercury, or the mild iodide of mercury.

DR. ALEXANDER DAWSON, Atlanta: First, I wish to commend the paper that has just been presented by Dr. Stukes, and, second, to direct attention to the wise and truthful aphorism of Lessing, "Be not the first to try the new, or last to lay the old aside."

Dr. Gaines brushes aside all the years of past experience and says that iodide of potassium is of no use whatever in syphilis. Iodide of potassium has been tried, and proved not only efficacious, but a remedy of great efficiency. I do not mean to say it has an effect upon the spirochaete, but it does have an effect upon the class of cases of syphilis about which he is speaking, namely, those cases characterized by intracranial pressure. Iodide prepares the soil and makes an easy way for the remedies which are to follow, so that we should not lay aside any remedy which we think will benefit the particular case. "Be not the first to try the new," but do not use Venarsen to the exclusion of other remedies which have been tried and proven and found efficacious for syphilis.

Mercury is curative, arsenic is of great value, and iodide of potash has a material influence, and you may dress it up in any garb you please, but after all the treatment today is practically what it has been for many, many years.

DR. A. A. BARGE, Newnan: Dr. Fischer's paper has been very interesting to me. I do not make use of the laboratory advantages as much as I should.

The fact that the doctor spoke of pain and of nausea and of infiltration being relieved by anti-syphilitic treatment brings me back to some cases I have seen. I recall having a case of syphilis of the liver. The patient

died, but he was moribund before I saw him. He suffered pain in the abdomen. We have that condition in these cases of syphilis of the liver, but the iodide of potassium promptly relieved the pain.

I desire to call attention to one condition we found in the abdominal cavity. I think iodide of potassium is certainly indicated, in those pains we can not account for in fleshy people. If you have a thin subject and can feel the mesenteric vessels you will find they are slightly hardened. If you have any pain with that condition my observation has been that iodide of potassium is the remedy par excellence, and I think it leaves one with the idea that Dr. Dawson says. It certainly does relieve the pain, and the patient thinks he is well, and unless we have a laboratory test we think so, too.

DR. L. M. GAINES, Atlanta (closing the discussion on his part): I want to begin with the remarks of my friend, Dr. Dawson, who evidently did not hear what I said. I stated in my paper that iodide of potassium is frequently of no benefit; I did not say it was never of any benefit. Syphilis, when it attacks the nervous system, has to be treated frequently in a different way from that in which it is treated in other parts of the body. The genito-urinary man, who sees cases of syphilis in the first and second stages, has ideas which are correct, but when it comes to the point where syphilis attacks the nervous system and produces its effects there, more additional treatment and different forms of treatment are required.

I desire to mention the experience of a man who is recognized as an authority in this country, namely, Dr. Joseph Collins, of New York, who told me that in the neurological institute of New York, where they treat a large number of the later manifestations of syphilis, particularly of the nervous system, during the entire length of time that institution has been in existence, a period of four or five years, they have not used iodide of potassium during the whole time, and their results are as good as any of the results that are obtained anywhere, I believe. However, I have not gotten to that point, and I use iodide of potassium, but I do not use it alone. I think it has a definite value, but it should not be used to the exclusion of other remedies.

In regard to Dr. McCurrie's remarks on the old remedies, I want to say that excel-

lent results have been obtained by their use. But they should not be used exclusively. If cases of syphilis of the nervous system are watched over a long period of time, I do not think any one can say that the old remedies have cured them. The primary and secondary lesions may clear up, but no one has a right to say that these patients are well. During a period of five or ten years the syphilis breaks out again in the nervous system.

Nonne, translated by Ball four years ago, made the statement that 5 per cent. of the cases of syphilis develop syphilis of the nervous system. That percentage is now 20 per cent., and the recent work done on the spinal fluid in the primary stage of syphilis shows that the spirochaetes are active in the spinal fluid, as shown by the index, the Wassermann test, the cell count and globulin estimation in a large percentage of cases. Probably 70 per cent. of the cases show involvement, according to the laboratory, and they later on show some of the manifestations clinically.

In regard to the use of Venarsen, I feel that the work which has been presented to us has been of value. I think it is perhaps of more value in the late manifestations, or tertiary manifestations, than it is in the primary and secondary manifestations of the disease, but it is by no means a specific for syphilis. The diagnosis of syphilis in the early stages is comparatively easy, from a clinical standpoint, and in the late manifestations of the nervous system it is of the greatest difficulty. Some of the cases show absolutely nothing, but a rigid examination to determine the presence of syphilis should be made, and unless one keeps in mind the possibility of nervous disease which presents itself with anomalous symptoms and which may be the result of syphilis, one is liable to be at sea as to the diagnosis, and there is where the laboratory is of assistance.

DR. A. H. BUNCE, Atlanta (closing the discussion on his part): Replying to the criticism that has been made, I meant to convey the idea that the Wassermann test is of relative value. Its most ardent advocates do not consider it to be of positive value absolutely. In my paper I stated that the finding of the spirochaete pallida was the only infallible procedure for the diagnosis of syphilis. According to Craig and Nichols, of the United States Army, and others, one can

make a diagnosis of syphilis providing the technic has been proper. Where the reaction is weakly positive, the element of doubt is much greater, and where any doubt exists the test should be repeated. The diagnosis of syphilis should not be made on simply one plus Wassermann in the absence of other clinical manifestations.

To show you what men think of the test, in a great many of the hospitals, especially in the northern and eastern states, the Wassermann test is done on every patient that comes in. At our State Sanatorium at Milledgeville every patient has a Wassermann test made. The spinal fluid is examined. At the University Hospital, Augusta, a routine Wassermann is made on every patient admitted there.

In the late cases, in visceral and bone syphilis, where you can not find the spirochaetes and no primary lesion, the Wassermann test is of value, and there it is of relative value only.

In regard to the India Ink method of examining for spirochaetes, some find it of value, while others do not. Craig and Nichols say that the India Ink method is of inferior value. In my hands the India Ink method has proved inferior to the Gieson and dark ground illumination method.

DR. L. C. FISCHER, Atlanta (closing the discussion on his part): I want to reply to one remark made by Dr. Champion. I made a mistake honestly in opening the abdomen in some of the cases after consultation, and after the cases were referred to me as being of a malignant nature. I opened the abdomen without suspecting they were syphilitic or that there was any possible history of syphilis connected with it.

I referred one case to Dr. Gaines, which he has included in his list of a charming little woman of a most elegant family. She comes from a family in which one would not think for a moment of suspecting syphilis or ever having thought of it in thinking of her. In her case the Wassermann was positive, with I believe 7.10 C.C. of spinal fluid.

I was in Vienna last summer for several weeks, and over there they classify or divide their patients in this way: Those who have had syphilis; those who have syphilis now, and those who are going to have syphilis. I do not think our classifications can be as broad as that, but after the mistakes I have made and the mistakes made by my profes-

sional friends, it behooves us to go more thoroughly into the examinations of our patients, and I have established at our Sanatorium the rule that each patient, where there is the slightest doubt about the diagnosis, is to have a Wassermann test made, and, contrary to Dr. Emery's feelings in the matter, when I find a positive Wassermann and I can trace a connection with the syphilitic condition, I give Salvarsan.

DR. E. C. MERRITT, Atlanta (closing the discussion): I wish to thank Dr. Fowler for his assistance and for giving me an opportunity to try this preparation in the college clinic. The old way of treating syphilis is a good one, and I think every patient who is being treated for syphilis should be put on the old method. But if you are in a hurry to go anywhere, you would not take a horse and buggy; you would get an automobile and try and get there quickly. If you had a chancre that a patient wanted to get rid of as soon as possible, you would not rely on the old treatment; you would give him a dose of Salvarsan, and the chancre would disappear in two or three days. I think that is the way to do it. The old way of treating these cases is mighty good, and I treat all my patients with the old method along with improved methods.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in your pocket.

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NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

FEWER BUT BETTER-TRAINED PHYSICIANS.

Fifteen years ago a noted educator, who was thoroughly familiar with the conditions underlying medical education, tersely remarked, "We do not need more doctors, we need more doctor." The statistics published last week show that this need is being attained. Fifteen years ago this country had 162 medical colleges, which was over half of the world's supply. Although some were well equipped and well conducted, a large proportion were owned by individuals or by joint stock corporations, and were conducted for profit. In some instances, a professorship could be secured by any physician who bought a certain amount of stock; for a smaller amount he would secure a lectureship. Since these institutions were organized for profit, it was important to secure large classes so the income from fees would be correspondingly increased. Glowing advertise-

ments, follow-up letters and paid solicitors were freely used; thus enrollments were swelled to mammoth proportions. No wonder that the actual number of students fifteen years ago reached the amazing total of 28,142, and that there were 5,747 graduates!

In the fifteen years there has, indeed, been a marked reduction; there are nearly 50 per cent. fewer medical students and medical graduates. Medical colleges sans teachers, sans laboratories and sans ideals have given way to well-equipped medical colleges having fair entrance standards, skilled teachers, modern laboratories and an abundance of clinical material. The sum total of colleges is decreased; the number of better ones has been greatly increased.

Instead of a great army of students, many having not even a grammar school education, and enticed from more tiring occupations by glowing advertisements and "easy" requirements, we now have had a preliminary training which enables them better to understand the more complex problems of modern medicine. As to the opportunities for properly equipped medical students, these have not been diminished, but have been decidedly improved. There could be a further reduction in the number of colleges and still allow of a greatly increased student enrollment. And the students would be further benefited by the change, since a greater proportion would be in the better-equipped colleges.

As to the reduction in the number of graduates, surely this country needed "fewer doctors, but more doctor!" For the public welfare it is certainly better to have a hundred well-trained graduates from modern high-grade medical schools than a thousand from the old-time variety of run-for-profit institutions. There is no danger, says The Journal of the American Medical Association, that there will be a dearth of physicians. The annual number of graduates is still nearly double the loss of physicians by death; and even if it were less than the annual loss, it would be many years before a dearth would result because of the seriously overcrowded condition of the profession. There is now one physician to from 600 to 650 people, as compared with one to from 1,500 to 2,500 in the leading nations in Europe. Even with this amazing contrast, we have not included in the figures for this country the hordes of so-called "drugless practi-

tioners." Christian Scientists, osteopaths, chiropractors, naprapaths, etc., who are scarcely found in other countries.

--- **SPOILED CORN MEAL.** ---

A normal crop of maize is estimated by the Department of Agriculture at 3,000,000,000 bushels, and valued at something over \$1,500,000,000. Only a small proportion of this total crop comes to market, the larger part by far being fed on farms. Census returns place the value of the corn flour and corn meal at about \$66,000,000. From this it will be seen that there is in the corn crop an enormous reserve supply of material suitable for human food, if the demand should direct its use for this purpose rather than for conversion into edible flesh, as now occurs with that portion of the corn fed to farm animals.

There are regions of the United States in which corn is not only the principal cereal product, but also the most important article of diet. This statement applies, for instance, to parts of the South, and in particular, to its rural districts, where wheat flour is of secondary importance and in some cases even a rarity. In many Southern families, even in the cities, corn meal in some form or other is eaten three times a day, and in most families at least once a day. These facts have been given a particular significance in recent years by those who have regarded corn as a factor in the production of pellagra.

In any event, however, the spoiling of corn is something real and significant for the food industries and the health of our people. Moisture is perhaps the most important of the factors causing deterioration. During the spoiling, acidity develops quite rapidly, being facilitated in good part possibly by the agency of molds and bacteria. Acidity is one of the indexes of the soundness of corn and its fitness for human consumption. The spoiling of corn products seems to be most common at the season when the kernel is ready to germinate in the spring. This process is a result of suitable moisture and temperature.

It has long been known that the presence of the germ in the meal increased the tendency to spoil. Mills accordingly keep better than meal from whole corn. Examinations recently made by the Bureau of Chemistry of the United States Department of Agriculture show that, in comparison with whole-kernel meal prepared from corn, degerminat-

ed, bolted meal both dried and undried shows superior keeping qualities. Even when thoroughly dried, the whole-kernel meal is liable to develop acidity in so short a time as to demand immediate consumption. If meal of this type is preferred because of its greater nutritive value or more oily flavor, it should be milled locally in small quantities and consumed within a short period. To quote the government authorities, in regard to keeping qualities whole-kernel meal may be compared to cream in that it must be delivered and consumed without delay, while degerminated meal may be compared to butter, which, within reasonable limits, keeps until used. A recognition of these facts, says The Journal of the American Medical Association, may tend to diminish the danger represented by the use of spoiled corn for table meal.

--- **ADVERTISING METHODS IN PUBLIC HEALTH WORK.** ---

The modern public health movement has been a development of the present generation, almost of the last decade. Two distinct methods, based on equally distinct lines of reasoning, appear to have been adopted. One view assumes that public health must be secured and maintained by means of a great organization, a state health police force, which will prevent the violation of the laws of health in the same way that the regular police force prevents crime. The other view aims rather at the education of the people, so that the laws of health will become common property and the power for their enforcement will lie in public opinion. The advocates of the first theory devote themselves to securing larger appropriations, so that more inspectors can be employed. The advocates of what may be called the educational method endeavor rather to spend such funds as are available in presenting basic facts to the people in a strikingly impressive and convincing way. In this educational work, the State Health Department of Virginia has been especially prominent. Few, if any, states with as limited funds have been able to produce so many new and excellent educational devices. The Health Almanac, now used by six or seven states, was first issued from Virginia. The State Department of Health saw no reason why the household almanac should be monopolized by nostrum venders. The latest innovation from Virginia is another device, captured from the "patent

medieine" advertising agent. Any one who has driven in country roads and lanes is familiar with the omnipresent tin sign, tacked on fences, gate posts, telephone and trolley poles, and even on trees and the sides of barns, urging the public to try "Dr. Killlem's Sure Cure for Bright's Disease" or "Ketelham's Old Reliable Cure for Consumption." Obviously, such advertisements caught the public eye and held attention, or "pat-medicine" firms would not continue to employ them. Why not use the public highways to advertise health as well as quackery? No sooner said than done. A series of six placards, printed in black on yellow tin sheets, 10 by 14, are being tacked up all over the Old Dominion. The farmer, the automobilist, the country swain riding with his sweetheart, even the humble foot traveler trudging along the dusty road, will now see from fence posts, walls and telegraph poles such messages as these:

THE BEST FARM IN THIS COUNTY
is the one on which the health of the family
is best protected.

BEWARE MOSQUITOES.

They breed in stagnant or slowly running
water.

TYPHOID FEVER
CAN BE PREVENTED.

The education of the people in regard to health is advancing, says The Journal of the American Medical Association, when the trees and posts by the wayside are converted into heralds of good health and disease prevention.

BOOK REVIEWS.

THE DIAGNOSIS AND TREATMENT OF DIGESTIVE DISEASES.

A practical treatise for students and practitioners of medicine. By George M. Niles, M. D., Professor of Gastroenterology and Clinical Medicine, Atlanta Medical College; Gastroenterologist to the Georgia Baptist Hospital, Wesley Memorial Hospital, Atlanta Hospital; Consulting Gastroenterologist to the Anti-Tuberculosis Association, Atlanta, Georgia. With one colored plate and 86 other illustrations. Philadelphia, P. Blakiston's Sons & Co., 1012 Walnut Street.

In preparing this excellent work, Niles has devoted the main part of his efforts to answer two important questions, namely, "What is the disorder?" and "What should be done for it?"

The book is compact, concise, but easily

intelligible; it contains descriptions of the various reliable tests for gastric contents, intestinal juices and feces. Clear descriptions are given of the methods of determining the position, size, motility, etc., of the stomach, intestines and other abdominal viscera. A succinct statement of the diagnostic methods indicated is also given with an exhaustive discussion of both general and special therapy as applied to these diseases. The work of Niles has been based on actual practice and represents his own experience and thus adds greatly to the value of this book.

DIARRHEAL, INFLAMMATORY, OBSTRUCTIVE, AND PARASITIC DISEASES OF THE GASTRO-INTESTINAL TRACT.

By Samuel G. Gant, M. D., LL.D., Professor of Diseases of the Colon, Sigmoid Flexure, Rectum, and Anus at the New York Post-Graduate Medical School and Hospital. Octavo of 604 pages, 181 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

The writer's name at once commands attention. We are at the outset assured of a valuable treatise. Our expectations are realized. This text presents to students and practitioners a complete and very practical treatise that fully covers the etiology, pathology, symptoms, diagnosis and treatment of acute and chronic diarrhea and allied infections as well as the disease consequent upon gastrointestinal parasites. It is arranged in logical, convenient form and thus becomes a most useful reference work—a want that has long been felt and now realized.

Chapter XLVIII consists of twenty pages of useful formula. Chapter L consists of forty pages descriptive of surgical indications.

All in all the volume is a most valuable addition to our literature and is thus assured to meet the wants of many practitioners.

OPERATIVE GYNECOLOGY.

By Harry Sturgeon Corssen, M. D., F.A.C.S., St. Louis. Cloth, 670 pages, 770 illustrations. Price, \$7.50. C. V. Mosby Company, St. Louis.

This work is devoted exclusively to operative gynecologic treatment. It is primarily a work on technic and as such it fully meets up to the author's object. The writer does not content himself with imparting the technic of a single man, but describes accurately the accepted operative procedure of several recognized methods in the attack of a given condition. For illustration, in discussing the retro-displacements of the uterus twenty different methods of correcting the

displacement is understandingly described. Likewise in prolapsus uteri and bladder twenty-six procedures are advanced. Thus is there imparted a similar broadness of range in the discussion of all subjects of this volume. Each indication for each method and the cases in which a certain method is most efficacious. The whole text is admirably illustrated by 770 original illustrations of logical and sequential arrangement.

This book is bound to receive a most cordial reception. Its intrinsic value forces every surgeon to possess it.

ALVEOLODENTAL PYORRHEA.

By Charles C. Bass, M. D., Professor of Experimental Medicine and Foster M. Johns, M. D., Instructor in the Laboratories of Clinical Medicine at the Tulane University Medical College, New Orleans, La. Octavo volume of 167 pages, with 42 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$2.50 net.

No subject has been of greater interest in the last few months than the subject matter of this book. Those who witnessed the most excellent exhibit of the author at the San Francisco meeting of the A. M. A. in June could not fail to give the matter serious consideration. The question has assumed a large place in the practice of almost every doctor, as well as dentist.

This book is not too large for easy reading. The print and general makeup are very satisfactory, including the illustrations. The whole subject is a very vital one to the profession just now. These are Southern authors, and the book highly meritorious.

THE MEDICAL CLINICS OF CHICAGO.

Volume 1, Number 1 (July, 1915). The Medical Clinics of Chicago. Volume 1, Number 1 (July, 1915). Octavo of 208 pages, 37 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Published Bi Monthly. Price per year: Paper, \$8.00. Cloth, \$12.00.

Medical Clinics.

The Medical Clinics of Chicago appeared for the first time in July and undoubtedly merits a warm reception by the profession in this country. The great popularity of the Surgical Clinics will be duplicated with the Medical Clinics. This number has been well gotten up in every way and is a credit to the publishers. The entire field of internal medicine will be covered. An endeavor will be to secure men of the highest ability as contributors to this series of Clinics. Stenographic reports at the bedside, as in

the Surgical Clinics, will be followed. The general practitioner especially should welcome such an authoritative work. The Clinics will be issued every two months at \$8.00 per year.

"AS TO MEDICAL FREEDOM."

The Lamar Democrat is published in Lamar, Mo., once a week. What follows is from an editorial that appeared in the issue of June 10, 1915. Those who read it will realize why it is unnecessary to make any comment:

Every week we read a journal that is devoted quite hotly to medical freedom. Judging from what this seven-day periodical of enlightenment has to say, we are in great danger of a vast medical trust, that will sit heavily and ruthlessly upon us, poisoning us with deadly serums and vaccines, gagging us with nauseous decoctions of mephitic herbs.

Is there really anything the matter with out present medical freedom in this country? Is there any damn fool "ism," any absurd claim, any sort of "Eny, Meny, Miney, Mo" business that we can not try upon our diseased and tortured bodies if we are so minded?

Truth compels us to answer None.

Consider for a minute what has been done by the regular school of medicine against which, in the name of freedom, we are so vociferously and so repeatedly warned. Then consider the achievements of the various schools, cults, 'isms and creeds that would supplant this profession and consign it to forgetfulness.

The regular school of medicine is fallible. There are many things it can not do. But it never ceases in its search for truth. The laboratory and the clinic room are its foundation and inspiration. Nothing is taken for granted. It bases its deductions upon scientific facts, that must overcome the combined force of prejudice, tradition and vested interest.

What has become of cholera? What has become of infant diarrhea? What has become of small-pox, once a terror equal to plague? What has become of diphtheria and membranous croup? Who is gradually conquering tuberculosis, the greatest of human plagues? Who has dissipated the dread specter of hydrophobia? Who achieved the marvels of modern surgery? Has it not been the school of regular medicine? One by one, hostile schools of healing have been reared to combat the ancient professions of Hippocrates. Where are they now? Only echo answers, Where?

Who is frantically and supplicatingly in demand upon those long battle lines in Europe? Is it chiropractics? Is it osteopaths? Is it Christian Science healers?

Those who seek to overthrow the regular practitioners found their assumptions upon a combination of superstition, and a wooden-faced denial of physical facts. They come and go like the passing seasons. They make no great scientific discoveries. They garner no tomes of physical knowledge. They are found in the end to be based upon pretense, gullibility, superstition and esoteric moonshine.

Courvoiser's law is rarely broken—enlargement of the gall bladder with pronounced jaundice means neoplasm.

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The medical man cannot continue in business without the supplies for sale by the advertisers.

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VOL. V.

AUGUSTA, GA., OCTOBER, 1915.

No. 6

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"GONOCOCCEMIA."*

By W. L. Champion, M.D., F.A.C.S., Atlanta, Georgia.

Genito-Urinary Surgeon Wesley Memorial Hospital and Grady (City) Hospital.

In the treatment of acute and chronic gonorrhea it is too frequently the case the thought of the surgeon is directed entirely to the relief of the local infection at the expense of more important tissues that are so often attacked with serious results. When we consider there is not a tissue of the body that the gonococcus has not attacked, we readily see the importance of keeping a careful watch for a general infection of the involvement of the various organs and tissues of the body. As for bulldog tenacity, the power of multiplying rapidly, of taking long journeys through unexplored territory (as from the urethra to the wrist and toe joints), as abscess producers, and making assaults upon mucous and serous membranes, the gonococcus is in a class to itself. It is a reflection upon the intelligence of our profession to note the number of patients who are be-

ing treated, or, I should say, treating themselves, with the advice of the physician, who not only fails to make a microscopic examination of the secretion, but prescribes without having the patient remove his clothes to know if he is really suffering with the disease he is attempting in a haphazard way to cure. When we consider this fact alone, the prevalence of the disease is readily accounted for. Those who look upon a gonorrheal infection lightly should see a typical case of gonococcal sepsis or gonococcal arthritis. I have had the misfortune of having two cases of gonococcal sepsis that ran a severe course, with mild delirium which terminated fatally. Before the introduction of the vaccines I had a severe case of gonorrheal urethritis in a young man who had an involvement of eight different joints—toe, ankle, knee, hip, shoulder, elbow, wrist and fingers. He was in bed three months and for some time unable to feed himself or turn over in bed.

We are too prone to dismiss lightly symptoms that may indicate impending trouble. A gonorrheal patient visiting his physician daily may call attention to pain in the region of the pleura or lung, and he is told it is probably neuralgic, when, in fact, he is de-

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

veloping a gonococcal pleurisy or pneumonia. In these cases the gonococcus is readily found in the fluid removed from the pleura or the sputum coughed up from the lungs. A case of unusual interest was a patient who could not walk with any degree of comfort on account of spurs on the os-calcis due to gonorrhea. He was referred to Dr. C. R. Andrews, who removed the spurs, and the patient was relieved. I recently demonstrated the presence of the gonococcus in a focus of infection by opening up the wrist in one patient and the ankle in another. During the past few months I have had under my observation two cases of interest. The first had an acute gonorrhea that developed epididymitis and was followed by gonorrheal endocarditis. The other case, which was referred to me by Dr. L. P. Stephens, developed a maculo-popular rash that is occasionally seen during an attack of gonorrhea.

There is no doubt the pain over the spine during an attack of gonorrhea is frequently due to the presence of the gonococcus, and is often followed by a rigid spine. While it is stated on good authority that the involvement of the seminal vesicles leads to metastasis of gonorrhea, my experience has been that when there is a general swelling of the penis, due to the involvement of the lymphatics, gonorrheal rheumatism and involvement of other serous structures are more likely to follow. I have under observation at present two cases of gonococcal arthritis that were preceded by involvement of the dorsal chain of lymphatics of the penis. This chain of glands, when involved, gives that cord-like feeling to the sense of touch, and that rosy picture that the patient never forgets.

To impress upon you more forcibly the object of this short paper, I will report in full a case reported by Dr. E. E. Irons:

"The view that gonococcal arthritis of the spine may result in bony ankylosis has been combated by several writers. Within the past year I have seen two cases of long-standing gonococcal infection in which the bony intervertebral lesions were clearly evident in the skiagraphs. One of the patients was a young man, who, at 11 years of age, suffered from a gonococcal urethritis, followed by perineurethral abscesses, recurring multiple arthritis and aortic endocarditis. In the succeeding years he had successive recurrences of arthritis, and when seen in his 30th year, had a rigid spine and subacute arthritis of the knee."

While the most frequent complications of gonorrhea, apart from the genital organs, are involvement of the joints, we must not overlook the possibility of involvement of the meninges, embolism and multiple neuritis. The gonococcus lodging in the kidney may produce a pyelitis, a small inflammatory area, as a nucleus for a stone, or an acute or chronic nephritis. If we have a patient confined to bed with a slow fever and we are doubtful as to the diagnosis, the usual tests eliminate malarial and typhoid fever. Question your patient and examine the secretion from his urethra, and it may develop that the gonococcus is responsible for the trouble at hand.

This discussion is presented to impress the fact that gonorrhea is not a simple malady, as many of us were taught, but a disease that is responsible for many pathological conditions that are exceedingly serious and many times directly the cause of death.

THE REPORT OF TWO GENITO-URINARY CASES.*

By Dr. T. E. Blackshear, Macon, Ga.

1—A Second Infection of Syphilis. 2—Wax in the Bladder Causing Stones.

Patient, man, 52 years old; railway conductor, a healthy looking individual.

Past History: In 1897 he was in a collision, and spent eight weeks in a hospital. After his discharge, he was troubled with an irritable bladder, and difficult urination. He attributed this to the large amount of morphine taken while there.

History taken at the time of first consulting me, November, 1914, was as follows: Burning sensation in deep urethra and bladder. Pain on beginning and ending of urination, and at times a sudden stoppage of the stream. He had to urinate twice within the hour during the day, and at night eight or ten times. He had observed that his urine was cloudy, but had never noticed the presence of blood. Examination of the urine showed numerous pus cells, bladder epithelium, and a few bad blood cells, reaction acid.

Colon bacilli and staphylococci in moderate numbers were the organisms found.

The prostate and urethra were normal.

Patient was put on urotropin and returned a few days later for examination of his bladder.

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

Cystoscopy gave a pretty picture of two white, smooth oval stones, one and one-quarter inches in diameter. The bladder wall presented nothing abnormal, other than a moderate redness due to the cystitis present. It seemed a good case for litholapaxy, which I performed three days later.

This presented no difficulties, his urethra being full size and introduction of instruments easy.

Upon evacuating the crushed stones I noticed several pieces of wax, which, of course, interested me.

Patient got along nicely after operation, temperature normal, some burning in urethra and pain on urinating.

His urine was clear next day, and he left the hospital three days later.

Four days afterwards, upon seeing him (he was now up and around the house) he said that he believed there was still something in his bladder.

I then questioned him regarding the wax found, which elicited this additional history: "After his dismissal from the hospital his urethra felt as if it were stopped up. To relieve this, he conceived the idea of making a bougie of a wax candle, which he pared down to the size of a lead pencil, and introduced into his urethra.

Subsequent events proved that a part of it broke off, finding its way into the bladder, and furnishing the nucleus for the stones.

As the patient was anxious to resume work, I advised another look in his bladder before doing so.

This was done, and a small fragment of stone, with the remaining wax, was found. The stone was easily crushed. The last fragment was found to be in the exacuator, as it was withdrawn.

Some particles of wax were evacuated, but getting it all out was a proposition.

A lithotrite being operated by sense of touch made the grasping of a soft body like wax an uncertain procedure.

I determined to get it out later with a rongeur cystoscope.

Man left hospital next day, and resumed work five days later.

Ten days afterwards, upon visiting me at my office, he showed me about a dozen pieces of wax which he had voided.

Looking into his bladder this was found to be all of it except two small pieces sticking to the anterior wall, which were surrounded by a sharply demarked ring of in-

flammation. They, at first glance, resembled ulcers.

These were dislodged with a beak of my cystoscope, and doubtless contained some fine particles of stone causing them to adhere.

In conclusion, I will say that at this time, four and a half months since the operation, patient is well and urinary functions normal.

He has been continuously at work, and his bladder is absolutely clean, having cystoscoped him a short while before making this report.

A Second Infection of Syphilis.

Patient, man, 25 years old, referred to me September, 1914, for diagnosis of sore on penis. This proved to be a chaneroid, which healed up promptly under local treatment.

I saw him again three months later. He then presented a typical sore of ten days' duration. Period of incubation uncertain, owing to various exposures.

This lesion, upon examination by dark field illumination, showed the presence of spirochoeta pallida and the diagnosis of syphilis made. He had a moderate degree of inguinaladenitis.

This, in brief, is a history of his second infection.

Upon telling the patient he had syphilis he made the following statement: "That he had contracted syphilis three years before; had been given three intravenous injections of salvarsan by Dr. R. G. Stone, of Hawkinsville, Ga., who had treated him throughout the disease; as he was then going to Hawkinsville, I requested him to call on the doctor for inspection; he did so, whereupon Dr. Stone wrote me the history of his first injection, which is as follows: "In reference to case of Mr. B, will say that I first saw him November, 1911. At this time he presented a typical case of lues, stiff joints, swollen glands, headache, throat symptoms, and a beautiful eruption.

"I gave him November 26th, 1911, .06 grammes salvarsan intravenously, .06 grammes salvarsan May 18th, 1912, .06 grammes July, 1913. Mercury and — were given during the intervals.

"Latter part of 1913, I pronounced him cured, all clinical signs pointing to a cure. There was no Wassermann made.

"The recent sore he has was quite a surprise to me, unless it can be explained as being due to a new infection."

The question arises, was it a new infection? I think we have good evidence in support of it. The appearance of a lesion three years after the first, showing spirochoet pallida.

The absence of syphilitic signs shortly after the administration of the first injection of salvarsan, continuing so for a period of nearly three years.

I am aware there are cases where the chancre apparently healed breaks down and returns after a few months treatment.

These are not classed as new infections.

I recall a case that I saw in a negro, whose chancre and secondaries returned after three months. He had been given salicylate of mercury hypodermically, followed up by mixed treatment.

In conclusion, I shall read you what E. L. Keys, Jr., of New York, has to say of these cases, where we have the appearance of a second chancre:

"The best we can do at present is to reserve judgment concerning all alleged reinfections occurring within a few months of an alleged abortion of syphilis by salvarsan."

DISCUSSION ON THE PAPER OF DR. BLACKSHEAR.

DR. W. L. CHAMPION, Atlanta: In regard to the paper of Dr. Blackshear, this case is unique from the fact that there was a foreign substance in the bladder. I have never seen a patient who had a second attack of syphilis. However, such cases have been reported. We know that syphilis, like smallpox, diphtheria, or any other disease, rarely attacks the same person a second time. I have seen several cases in which there has been a return of the chancre where a patient has been treated a few months longer insufficiently. In such cases the sore would return and apparently was as bad as in the beginning before treatment.

DR. T. E. BLACKSHEAR, Macon (closing): This man had a second chancre which appeared three years after his first attack of syphilis, and all of his chancres were typical, they were all indurated, and all showed the spirochoeta pallida. The worst lesions were on his penis, and every one including chancreoid, was at an entirely different place.

THE SMALL FIBROUS PROSTATE.*

By A. L. Fowler, M.D., Atlanta, Ga.—Professor of Genito-Urinary Surgery in the Atlanta Medical College; Genito-Urinary Surgeon to Grady (Municipal) Hospital; Genito-Urinary Surgeon to St. Joseph's Infirmary; Sometime Physician and Surgeon to United States Penitentiary Hospital; Member of American Urological Association, Etc.

(Clinically, the small fibrous prostate very properly belongs under the heading of enlarged, or hypertrophied, prostate because it can operate to cause quite as much, if not more, residual urine than a big prostate.

Because this type—the small fibrous prostate—is so frequently overlooked, not only by the physician with his palpating finger in the patient's rectum, but also by the general surgeon even after he has opened the bladder suprapublically, is my excuse for reading this paper before the association.

Cause

The cause of these small, hard, fibrous prostates is infection; but **not necessarily venereal**, since those of us who have seen many of them know full well that some of our cases have had no urethral infection, nor has there been a history of anything like an acute prostatitis. Of course, some of the cases will give a history of gonorrhoea; indeed, about one in three of my cases (twelve in number) gave such a history. But, at that, is it not likely that the previous gonorrhoea in no way whatsoever served to cause this fibrosis? The presumption is, naturally, that in those cases giving a history of gonorrhoea this organism caused the disease. In the others such a presumption is hardly presumable, and some other agent must operate to cause the condition.

Excessive venery, ungratified sexual desire, coitus reservatus, etc., may sufficiently lower the resisting power of the gland so that bacteria find little difficulty in advancing to the attack, and with a low grade of infection causing the mischief the process might easily progress slowly and surely, but quite insidiously. The disease must, in many cases, be due to haematogenous or lymphogenous infection of some kind; but it certainly is not always venereal. The small fibrous prostate has been compared with what we see in hyperplastic endometritis; the gland is little, if at all, enlarged. It presents a dense, tough mass of fibrous tissue, firmly

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

adherent to the fascia from which it **can not be enucleated**. Microscopic section discloses advanced arteritis, and an almost complete atrophy of glandular elements. The tissue, as a whole, is homogenous. I have seen the disease in men who knew not what venereal diseases were; in men who had lived in the wilds of the mountains, some of whom had never seen a train until they came under my medical care at the United States Penitentiary Hospital; they having been arrested for illicit distilling far from civilization.

Diagnosis

In examining the prostate by rectum one should not, **unless he be an expert**, give too much weight to apparent changes as conveyed to the examining finger. Some prostates that are big will bulge bladderward and can not be felt as large when palpated per rectum; yet they occasion a great amount of residual urine. In such cases a catheter passed after the patient urinates, or a retrograde (not an ordinary) cystoscope will point the way.

The diagnosis of the small fibrous prostate can prove most puzzling, particularly if the examiner proceeds with the idea that a prostate must be enlarged, per rectum, in order to cause prostatic obstruction. The recognition of this type becomes easier if it be remembered that every man experiencing difficulty in urination possibly has a small fibrous prostate. Usually such a gland is felt as a **small, but clearly defined, fibrous-feeling body, with a well-marked sulcus**. Occasionally, scarcely any gland can be mapped out with the examining finger.

In these cases there is a marked resistance to a soft rubber catheter at the bladder outlet, and the passage of a steel sound is accompanied by a gripping of the instrument as it engages the contracted bladder-neck. The difficulty in instrumentation is due to the formation of a small fibrous ring of prostatic tissue that has shrunk around the beginning of the prostatic urethra.

After a small fibrous prostate has existed for a sufficient length of time there will be a variable amount of accompanying residual urine. A small fibrous prostate will occasionally cause the presence of **more residual urine** than a greatly enlarged prostate. If we can rule out stricture, diverticulum of the bladder, and lesion of the spinal cord, it is reasonable to assume that a residual urine owes

its presence to some abnormality of the prostate.

Retrograde cystoscopy, in doubtful cases, will disclose trabeculated bladder walls (from its efforts at emptying itself), and a slight elevation of the floor of the vesico-urethral opening above the trigone. If the instrument be rotated a small, red ring may be observed hard around the circumference of the shaft of the retrograde cystoscope.

Treatment

The treatment is to remove as much of this fibrous tissue as possible, and let it be said, without fear of successful contradiction, that this is not easy. I have operated on these cases, both by the low and high routes, and favor the high route because of

1. The advantage of sight, particularly if an illuminator be used.
2. The clear view of the entire bladder cavity, before and after operation.
3. Clear view of gland before and during operation.
4. Good view of membranous tags, after attacking prostate, which should be removed to avoid subsequent mischief.

After removal of all the fibrous tissue possible, and this is facilitated by using a periosteum elevator and biting forceps, there will generally remain a small, tight fibrous outlet that is quite unlike the spacious cavity seen after removal of enlarged prostates. The best results are obtained by splitting this fibrous ring upon its floor, or upon its floor and to one side. This latter procedure is very important, and if it be overlooked the operation may be a failure. The subsequent treatment of the bladder is very like that for enlarged prostate, the routine treatment of which is unnecessary to detail in this paper.

I have brought this subject of the small fibrous prostate before the association because it is so likely to be overlooked, not only by the general practitioner, but by the general surgeon as well.

During the past few years I have operated on three such cases that had been previously drained suprapublically by very, very good general surgeons. These cases were temporarily benefited by drainage, but as soon as the supra-public incision healed all the old symptoms returned. This points out how good general surgeons can easily fail to recognize the condition, notwithstanding the bladder is open to inspection, through the space of Retzius, before them; further, the

non-employment of the examining finger when there is every opportunity to introduce it directly into the bladder cavity. This being true, is it any wonder that the condition is overlooked so frequently when an unskilled finger is introduced into the patient's rectum for examination.

AN IMPROVED METHOD OF DRAINING THE BLADDER AFTER PROSTATECTOMY.*

By G. Edgar Ballenger, M.D., and Omar F. Elder, M.D., Atlanta.

The most disagreeable feature attending prostatectomy is the sloppy condition in which it is necessary for the patient to remain until the incision heals. For many years we have tried to devise some method of drainage by which we could keep the patients dry. This we have only recently secured. The device we now employ affords a very satisfactory way of disposing of the urine and irrigating fluid, whether it be continuous or intermittent. The continuous irrigation is employed immediately after the operation until the hemorrhage ceases. Later it may be made intermittent if desired, though continuous irrigation makes the incision heal more rapidly, especially if we use a 1 to 100,000 solution of nitrate of silver.

If desired the solution for irrigation may be carried into the bladder through a retention catheter and out through the incision or both tubes may be in the incision, the fluid passing in through one and out the other with the urine. The most important advantage of this device is that it keeps the patient dry, even after all the tubes are removed. It is unnecessary to say that this adds greatly to his comfort.

The continuous outflow is secured by the employment of Hawley's suction apparatus for draining the antrum and such cavities. It can be applied to any water faucet, and by regulating the flow of water gives any desired degree of suction. This we have found to be a great improvement on the old syphon method, which required such constant care that uniformly satisfactory results were practically impossible. Small thick rubber tubing is used to conduct the drainage tube to the Hawley apparatus. A two to five-gallon bottle is connected between the pa-

tient and the pump, so as to measure the amount of fluid and urine, and to prevent clots and mucus from blocking the air valve of the apparatus. The drainage tube is connected and the suction regulated according to the irrigating fluid, hemorrhage, flow of urine, etc. At first the flow should be sufficient to prevent the formation of large clots and the suction regulated accordingly. Later the irrigating fluid may be reduced. The larger tube may be removed after about three or four days when the hemorrhage stops, and a smaller one inserted. The irrigation may still be continued. After a few days the tube may be removed from the incision and the urine (or urine and fluid if the irrigations are continued through a urethral catheter) may be collected from the outer part of the incision under the glass bell-shaped cover shown in the illustration. This may be used earlier if thought advisable, allowing the fluid to flow in through a very small tube, washing the bladder from within out through the incision. It is held in place with adhesive strips. In such instances it is drawn away as it collects under the glass cover.

In applying the cover it is partly filled around its inner margin with stiff zinc oxide ointment to prevent irritation of the skin and leakage of fluid and urine.

We have found that after the 10th day, suction applied once or twice daily for a few minutes promotes rapid healing of the incision; this can easily be obtained by compressing the intake tube. The simplicity of this device makes it easy to understand, easy to operate and of small cost. The patient must have a room with a water faucet convenient. There is a great saving to the patient in dressings and to the hospital in linen, especially if the two-stage operation is employed and the time of drainage is both before and after prostatectomy. The above described arrangement works whether the irrigations are continuous or intermittent and drains the bladder whether the prostate is removed by the suprapubic or perineal method or in any bladder operation requiring drainage.

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PAPILLOMA OF THE BLADDER.*

With Report of Two Cases by Montague L. Boyd, M.D., Atlanta, Ga.

Case 1. (No. 181) C. B. H. Age, 54. Married. Came to me complaining of frequent and bloody urination. The frequency began three years ago with getting up once or twice at night; this has increased until at the present time he is getting up four to eight times. Blood first appeared in the urine about five months ago, and has been present more or less continuously since. Sometimes there is a good deal (no clots), but usually there is only a slight amount. For the past week or two there has been a pretty marked increase, so that at times the urine is quite dark with blood. No terminal hematuria. There has been some slight burning in the penis on urination, but no difficulty in emptying the bladder, except a slight amount in getting the stream started. Occasional aching pain in the suprapubic region for the past three years, which is relieved by voiding or lying down.

Examination: Urine contains a slight amount of blood and pus and staphylococci. Prostate small, firm and tender. Prostatic secretion contains a moderate amount of pus and a good many lecithin bodies. Bladder capacity 250 cc.

Cystoscopic examination shows the mucosa of the bladder to be slightly reddened generally and a smooth, sessile papilloma about 2 to 3 cm in diameter, situated on the left wall of the bladder slightly above and beyond the left ureteral orifice.

Diagnosis: Probable malignant papilloma of the bladder. The diagnosis of malignancy was made from the bald appearance and close application of the tumor to the mucosa—apparently without a pedicle.

Operation: Removal of the tumor with a 1 cm margin by suprapubic cystotomy. Care was taken to remove the submucosa and a portion of the muscularis. On palpation the tumor was evidently freely movable over the submucous tissue, but felt fairly firm.

Pathological Diagnosis: Benign papilloma of the bladder.

Result: Within six months after the operation I received a letter from the patient, whose home is in New York, stating that he

was passing blood and some clots. I advised a cystoscopic examination, which showed a recurrence of the tumor in and about the scar of the wound. The patient is now receiving treatment for the recurrences with the high frequency current. Note. Suprapubic operation was done because of the appearance of malignancy which the tumor presented. Had this not been the case the high frequency current would have been used. Had the tumor been found malignant at operation a large portion of the bladder would probably have been resected.

Case 11. (No. 302). M. W. K. Age, 28. Married. Patient came to me with only one symptom—hematuria. This had been present for three months, lasting usually for three or four days and recurring within six to ten days. For past week has been bleeding a good deal and quite steadily; has passed some clots.

Examination: Urine contains a moderate amount of blood cells, but no pus or bacteria. Bladder capacity 450 cc. Cystoscopic examination shows small, villous, pedunculated tumor on the left wall of the bladder slightly above and beyond the left ureteral orifice. Small dark clot at the base and some slight oozing from the villi.

Treatment: Application of the high frequency current every five days for three sittings. Current applied four to six times at each sitting, each time $\frac{1}{2}$ to $\frac{3}{4}$ of a minute, the bladder having first been cocaineized with a 4% solution. Further application made every four weeks until it seemed assured that there was no remaining growth. The tumor disappeared after the first three sittings so that only a scar was to be seen with the cystoscope. Patient has been free from any recurrence now for nine months.

Having reported to you these two cases, I wish further to discuss the subject of papilloma of the bladder in an attempt to point out to you, without dilating upon it, the fact that early diagnosis in such cases is very desirable, and also to present to you a brief sketch of some of the work that has been done upon this subject, that you may note the marked advance which has been made in the development of the operative procedures.

Etiology: As with carcinomas, sarcomas and the other new growths, we know very little about the etiology of these tumors. There is an inclination among some observers

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

to suspect an irritation as being a cause and perhaps the most common one, although no direct evidence can be offered for its existence, except in a few cases where we find a stone, a preceding infection or some positive source of irritation.

Classification: Disregarding the many various classifications which have been made, we are at present inclined to adopt for its usefulness that of benign and malignant papilloma. A more elaborate classification does not seem necessary.

Pathology: The papilloma is a pedunculated or sessile tumor formed of villi, which are composed of several layers of epithelial cells covering a loose fibrous stroma in which there are fine blood vessels. The villi may vary from long, fine, hair-like projections to short thick ones. They may be very numerous or appear singly and springing directly from the mucosa form alone a papilloma. The base varies from a fine process, a stem of the villus or villi, to what appears to be a fold of projecting mucosa; or, as we may express it, the tumor is sessile or pedunculated.

Dissemination: Not infrequently there is present more than one growth. The cause of the multiplicity is obscure. Whether, as Fenwick seems to think, there exists an irritation of the bladder with a tendency to tumor formation in the areas in which the irritation is most marked, we do not know; but further he points out the interesting fact that where we find a malignant papilloma of the bladder in the peri-ureteric region with a secondary growth present, the secondary growth—which is nearly always benign—occurs on that part of the bladder which, when the bladder is empty, comes in contact with the first appearing growth, namely, above the urethral orifice.

Location: Another interesting point to which Fenwick calls our attention is that the solitary villous papilloma occurs with rare exceptions in the immediate neighborhood of the ureteral orifice, generally behind and to the outer side of the opening. It never arises from the trigone or from the anterior wall.

Diagnosis: The diagnosis of bladder tumor by means of the cystoscope is, as a rule, not difficult, nor is it usually difficult to discover that the growth is a papilloma. The difficulty arises in determining the presence or absence of malignancy. The development

of malignancy in a benign growth, which we know occurs, makes no change in the appearance of the tumors that we can readily recognize with the cystoscope. However, there are certain things which help us in most cases: If the tumor is single, small and has long villi it is apt to be benign, but if multiple or with short villi (having the bald appearance) it is very apt to be malignant. If the base of the tumor can be felt we can still better satisfy ourselves—if the base is not hard nor firmly fixed, but is soft and freely movable over the muscularis it is in all probabilities a benign growth. Diagnosis of the actual presence of a tumor can often be made from the presence of villi in the urine, for when long they are fragile and frequently broken off.

Frequency: The relative frequency of bladder tumors is about 4% to 8% of all tumors. In women we find 14% to 20% and in men 80% to 86%. The frequency of papilloma among these is given as being anywhere from 35% to 50%. (In recent statistics Young gives 17% in 117 cases and Watson 40% in 703 cases.)

Treatment: Fenwick suggests that in certain cases where no symptoms have arisen from a single villous papilloma which is apparently benign—there being no obstruction and no hemorrhage—that the growth be unmolested as long as it maintains its benign appearance. This suggestion would be excellent in consideration of all operative procedures, but not in the use of the high frequency current. To let the patient go without treatment completely is not to be thought of in a tumor which so frequently becomes malignant.

Operation: It is interesting to consider the development of the operative technique of papilloma of the bladder. Sir Henry Thomson, in 1884, devised a method of attacking bladder tumors in the male through a perineal urethrotomy. The method of operating through the urethra has gradually improved since the time of Civiale who was, it seems, the first to remove a bladder tumor through the urethra, which he did by grasping the growth with an instrument designated a trilabe. In 1881 Carter seized the base of a tumor and removed it through the dilated urethra with a pair of forceps. In 1883 Spencer Wells reported three cases from which he removed polyps through the dilated urethra of women. An Austrian, Greenfeld,

was the first to remove a tumor through the non-dilated urethra. He was able to fragment the growth in both male and female with a small polypus canula. In 1887 Guyon extirpated a papilloma through the dilated urethra with a galvanic loop.

With the development of the cystoscope Nitze instituted the method of removing the tumor with the aid of the eye. He first tried locating the tumor with the cystoscope, then removing it with a lithotrite; he failed in the first case, but was successful in the two following. In 1891 (Cantrelbl. f. Chir.) he described his first operating cystoscope, which had jaws and a cautery. The tumor was torn away by means of the jaws and the base then cauterized. He gradually perfected this instrument and in 1896 reported an instrument which he has since modified but little. His instrument contains now, besides a cautery, a loop of platinum wire with which the tumor is caught about the pedicle which is burnt through with a galvanic current. The stump remaining is further destroyed with a cautery which is on the beak of the instrument. He has also an instrument with jaws designed to catch and remove tumors.

Various other inventors have devised instruments, some of which pinch away the tumor, some cut them, others seize them with jaws whose edges can be heated with a galvanic current, and others constrict and cut through the pedicle with a cold wire loop. Several have cauterizing devices for treatment of the wound left when the tumor is removed. Lowenhart devised an instrument which he reported in 1901, Kollmann in 1902, Casper 1905, Klose 1907, Strauss 1907, Boehme 1909, and Blum in 1909 (J. Dore and Jack Mock). Young, also in 1909, reported two instruments which he had devised. The hemorrhage after the use of some of the cutting instruments is rather severe, but it is reported that it is only mild after the use of the cauterizing instruments.

The operation through the urethra consists now in removing the tumor through the non-dilated urethra by means of an especially devised operating cystoscope, the best of which has a loop with which the tumor can be caught and its pedicle burnt through with a galvanic current, and also a cautery for treating the base of the tumor after the removal. That this method is limited to pedunculated benign growths or very small malignant growths is all that has been claimed

for it by even its most ardent supporters.

The operation by the suprapubic method consists in removing the benign tumor with the least possible injury and contamination with the tumor of the mucosa, and with a broad margin at the base. The tendency in operations on vesical tumors has yearly been growing more radical, until now some demand total cystectomy for all tumors which appear at all malignant. Even with the most benign tumors there is a high percentage of recurrence after operations done by the most skillful. The recurrences usually appear in the scar of the wound or in the surrounding mucosa and are much more inclined to become malignant than the original growth. Malignant tumors in the fundus of the bladder not involving the peritoneum may be removed by resecting a large area of the bladder. Such growths in the lower part of the bladder where wire resection can not be carried out, as well as multiple apparently benign growths, bring up the serious question of whether or not it is advisable to do a total cystectomy. Watson, in a compilation of radical operations on 703 cases of all-bladder tumors, shows a cure in 20% of benign cases, with 30% known recurrences, and 10 cures in 348 cases where a radical operation was done (including 38 complete extirpations of the bladder) for neoplasm of the bladder.

The comparative results of the two operative methods are as follows: Watson and Cunningham have brought together 287 cases of papilloma from the literature where the growth was removed through the suprapubic wound, and show a mortality of 10% for them. In 141 of these, whose histories were complete enough to follow, there were 29, or 20.4%, recurrences in the first three years and 13, or 9%, after that time—a total of 29.4% recurrences. From the compiled statistics of Nitze, Strauss, Marion and Victor Blum we find 176 cases with a mortality of .56%, 28 (or 15.9%) recurrences and 135 (or 15.5+%) free from recurrences. Of the 176 there were 12 whose histories were not complete.

For a choice of these two methods this certainly speaks very strongly for the urethral route when in the hand of a skilled operator, but I am doubtful whether the recurrences would be so few with a closer and a more extended study of the cases.

The most recently devised method of attacking the bladder growths to which I desire to draw your attention is the use of the

high frequency current. It is applied to the growth through the ureteral catheterizing cystoscope by an insulated wire electrode, and it is so new a method that as yet sufficient cases have not been treated with it, nor sufficient time elapsed, to definitely prove its limits of usefulness. After observing the effect of the high frequency current on skin growths in the European clinics, Dr. Beer, the deviser of the method, turned his attention to an effort to apply this current to tumors of the bladder, and in May, 1910, reported the progress that he had made. About one year later he reported a series of 38 cases of bladder growths treated by himself and other surgeons with results that were most remarkable. In a more recent paper he says that 187 cases of papilloma of the bladder have been treated in America, as well as more than 20 cases of urethral papilloma, and the results have shown that this method is simpler and superior to previous methods in a most striking manner.

The claims made for the usefulness of the high frequency current in benign growths has apparently been substantiated by many workers in this country and Europe. Beer is conservative concerning the effectiveness of this method in the treatment of carcinomatous growths, saying that it is not curative. Others are not so conservative and have reported cases of carcinoma (early ones) cured by its use. Bachrach (Vienna) reports the cure of three cases of recurrent papilloma of the bladder, and Young (J. A. M. A., Vol. LXI., p. 1857), declares his belief in the efficacy of the current in the killing off of carcinomatous tissue, provided its current is not passed through water and is used very strong. Its most useful application is in the primary and secondary papillomata, but it certainly has a place in the control of non-operative malignant growths.

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DISCUSSION ON THE PAPERS OF DRs. FOWLER, BALLENGER AND BOYD.

DR. W. L. CHAMPION, Atlanta: Dr. Fowler's paper is one of great interest to me for the reason that he has described a condition which is frequently overlooked. There is a condition he speaks of as a small fibrous prostate in which there is also atrophy of the prostate, with contracture at the neck of the bladder, that produces a large amount of residual urine or just as much as the big adenomatous prostate.

One point that he neglected to speak of is the fact that with a small fibrous prostate, or where there is a contracture at the neck of the bladder, the urethra is not lengthened, as it is in a case of large adenomatous prostate. Frequently you find it seven and a half instead of eight inches. The average length of the urethra varies with different people.

I have had in the last eighteen months three cases of small fibrous prostate. I have removed a prostate not much larger than the end of my finger, one-third possibly than normal size, and the patient was not able to empty the bladder. He had to be catheterized to get the urine out.

In regard to Dr. Ballenger's apparatus for draining the bladder, it is certainly of value, because in those cases where we do a prostatectomy, after removing the tube the patient will necessarily be wet with urine for two or three days until it closes sufficiently to drain it through the urethra.

Dr. Boyd's paper is a valuable addition to the handling of bladder conditions of this kind of papillomas. I am glad to have heard it.

Since we genito-urinary men are so much taken up with the use of mechanical instruments, I think any one who devises a method of assisting us in making patients more comfortable or in improving our operative procedures deserves our commendation.

I think the apparatus of Dr. Ballenger is most useful and certainly will keep these patients dry after suprapubic prostatectomy. On that account it is of the greatest assistance.

I would like to call attention in connection with the fibrous prostate to the difficulty one has in removing it without endangering the

ejaculatory ducts. The ejaculatory ducts enter the urethra between the posterior layer and between the two lateral lobes; the posterior layer is a thin layer and is separated from the other portion of the prostate through hypertrophy by its capsule, and the hypertrophied lateral lobe; the posterior layer seldom hypertrophies, and is easily removed by simple enucleation. But in these small fibrous prostates it is difficult to remove the lateral lobes without injuring the ejaculatory ducts. It is a matter of some importance. Where these conditions occur in men fairly young, who will have their sexual ability for a number of years remaining, it is important to preserve these ducts, and it is very much easier to approach the prostate to see what you are doing and to remove the lateral lobes without injuring the prostatic bridge that is left in the perineal operation than it is by a suprapubic operation.

DR. A. L. FOWLER, Atlanta (closing the discussion on his part): I regard Dr. Boyd's paper as an excellent one. My experience in reference to bladder tumors is that if there is any infiltration at all in plakues, the least you do as to operative intervention in these cases the better it is for the patient. Where there are small attachments to the villous tubes, if there is no infiltration, I think it is a good plan to remove the tubes, apply deep interrupted sutures into the base of the tumor far below where there is any likelihood of any infiltration being, and after tying off the tumor, cut it off with scissors and stitch over the mucous membrane with small fine catgut.

I do not exactly understand what Dr. Boyd meant when he spoke in connection with his operation of the fundus of the bladder. I wish he would tell us what he means by the fundus of the bladder when he closes the discussion.

DR. W. B. EMERY, Atlanta: I have had five patients, but I have operated on one twice, the first time about five years ago I removed two papillomas. At that time I had an examination made and supposed the tumor was benign. The patient was almost exsanguinated from a profuse hemorrhage. It was a patient Dr. Champion turned over to me when he was attending a medical meeting about five years ago. I operated on this man, and I am satisfied I saved his life, but two years later he had a return of the hemorrhage, and after I became more proficient

with the use of the cystoscope I found in there a great many papillomata. I operated on him again, and I counted fifteen or sixteen papillomata studded throughout the bladder, some no larger than a buckshot and others larger than the end of my finger, showing that any operative interference, unless it is a matter of saving life immediately, would spread this trouble, and although the condition was considered benign at first, a pathological examination not having been made, I am satisfied it was malignant. In a case like that it is questionable whether we have a right to use the interrupted current, but as a last resort, probably it is the thing to do. The Mayos have adopted the treatment of using the interrupted current, and they make the patient come back every six months and use this treatment periodically. These tumors slough off and come away.

DR. M. L. BOYD, Atlanta (closing the discussion): I want to emphasize the point that papillomata of the bladder show a tendency to recur, and there is great danger of death eventually if they are not handled properly, and in some cases the method to use is fulguration by all means.

In answer to Dr. Fowler's question, I meant the free portion of the bladder with the end under from the urethra.

DR. FOWLER: I thought that was what you meant. The fundus of the bladder is the base, and that is what I could not understand.

Rome, Ga., September 11, 1915.

Dr. W. C. Lyle, Editor, Augusta, Ga.

Dear Doctor: Will you announce in your columns that the Georgia Surgeon's Club will hold clinic days in Augusta Wednesday, February 16th, and Thursday 17th, 1916.

Please announce in another connection that there will be Surgical Clinics in Nashville, Tenn., Friday, November 5th, and for those en route to the meeting of the Southern Medical Association, November 8th to 11th, 1916, Dallas, Texas.

Yours truly,

R. M. HARBIN,
Secretary-Treasurer.

An advertisement in The Journal of the Medical Association of Georgia will bring results. Rates sent on request.

A UNIQUE CASE IN GUNSHOT WOUNDS.*

By J. G. Standifer, M. D., Blakely, Ga.

Gentlemen, this case impressed me as being unusual, and thinking it might prove of interest to you I am presenting it.

Case No. 1767—G. W., white male; age, 42. Occupation, farmer; married 20 years. Family record negative, except for alcoholic tendencies.

Sunday, July 4th, about 4 p. m., in a drunken fight patient was shot with a 38-caliber pistol, ball entering on left side of head at the level of the lower lobe of ear, partially shattering and boring through the ramus of jaw. The bullet, ranging upward, emerged from the temporal bone on a level with the curve of the ear and about $1\frac{1}{2}$ inches posterior to the corner of the right eye. The man bled profusely from both wounds, as well as from mouth and nose. He was dazed, but when I saw him, about an hour after the shooting, lying on the ground and covered with blood and dirt, he was conscious and recognized me; in fact, spoke to me, and was in no way paralyzed. Pulse, 96; respirations, 20. I was called in at the request of Dr. B. K. Simmons, who later was taken sick and turned the case over to me.

The patient was later carried in a wagon to the nearest house, some half a mile away. At the time of my arrival the patient complained very little of pain and showed very few signs of shock, except, of course, the usual signs of loss of blood. Neither Dr. Simmons nor myself had any surgical appliances with us, but while the wounded man was being carried to the nearby house, the doctor and I went in an automobile to get some few dressings.

On our return, we found the man still in the wagon. After much trouble I managed to get him into the house and onto the floor where, with the doctor's help, I gave him a very incomplete bath, put him in bed, dressed his wounds, gave him morphine and atrophine and wished him well.

Here I wish to state that he seemed considerably weaker on our return. Also that on closer examination powder burns were found on left side of the face, and the exit wound, round and punched out, contained a strand of white fibrous tissue, which I took to be part of the meninges. At this time he was complaining considerably of pain,

hence the morphia. He was still perfectly conscious and in no way paralyzed.

Early the next morning he vomited several times, a good deal of it being swallowed blood. At 11 a. m. I saw patient with Dr. Simmons. Conscious; pulse, 64; pain in head and eyes; nose clogged. Our rather crude, but antiseptic, dressings removed and new dressing applied. Bowels opened with broken doses of calomel; salol also added. For pain we used 3 grains of aspirin, with $\frac{1}{4}$ grain of codeine to a dram of alcohol in our familiar aspirin compound. This proved entirely sufficient for relief of pain, and was all that I used in the case. 5th, p. m. Conscious and not paralyzed. Pulse, 45; temperature, 99 2-5. Pulse skipping. At this time I ascertained that he had had some heart trouble. Bowels and bladder moved well. Nausea passing off. It was my opinion at this time that he was getting worse and would in a short time sink into a comatose state. I left him with as much assurance as possible.

6th, 11 a. m. Conscious; no paralysis; temperature, 99; pulse, 50. Pain in head and right eye. Tongue dry and coated. Nose occluded with clotted blood. I have neglected to say that all during this time he could hear well. 7th, 2 p. m. Temperature, 100; pulse, 50. Seems to be holding own. Bowels open. Started him on $7\frac{1}{2}$ -grain doses of quinine every morning. 8th, 3:30 p. m. Temperature, 100 2-5; pulse, 52. Still conscious and not paralyzed. All pain on right side of head.

9th, 12 m. Temperature, 99; pulse, 48. Resting fairly well. Appetite not much. Slight serous discharge from both wounds. Left nostril open.

10th, 3 p. m. Temperature, 98 3-5; pulse, 50; respiration, 14.

11th, 3:15 p. m. Temperature, 100; pulse, 50. Says he feels very well.

12th, 6:30 p. m. Temperature, 99 1-5; pulse, 54. Heart worrying him.

13th, 3 p. m. Temperature, 99 4-5; pulse, 76.

14th, 4 p. m. Temperature, 99 2-5; pulse, 96. Appetite better. Sleep poor. Pulse, skipping. With an irregular and increasing pulse I again looked for something to happen.

16th, 3 p. m. Temperature, 98 4-5. Pulse, regular and steady. Doing nicely.

18th, 9 a. m. Temperature, 98 4-5; pulse, 72. Removed home. Stood trip well. En-

trance wound healed. Exit wound has a slight discharge.

20th, 3:30 p. m. Temperature, 98.2-5; pulse, 72. Doing well. The exit wound nearly healed. Is up and walking about the house.

25th, 3:20 p. m. Temperature and pulse normal. Both wounds healed. Appetite good. Walking about. On account of the splintering of the ramus of the jaw and its consequent impingement upon the superior maxillary, he is unable to open his mouth wide. This is his only discomfort. We made no attempt to set the jawbone, because, at the time, we saw no necessity for it.

I have very little to say in discussion of the case. The bullet must have been a steel-jacket one, for it made a round, clear-cut hole. It undoubtedly passed through a part of the temporal lobe of the brain and through the accessory sinuses of the nose. How it missed the Gasserian ganglion, or, at least, the ophthalmic or superior maxillary divisions of it, is a puzzle to me. He had a slight disturbance of vision, but that passed off. There is no motor paralysis. He has a slight sensory disturbance of the upper teeth on the right side. The bullet went through the left parotid gland. There was practically no pus.

NINTH DISTRICT MEDICAL SOCIETY.

The Ninth District Medical Society met in Commerce, September 15th. The attendance was an average one from the district, and among visitors from other districts were Drs. Fullilove, Coleman and Holliday, of Athens; Dr. Stovall, of Elberton, and Dr. Brown, of Royston, all of whom were accorded the privileges of the floor. Dr. Goldsmith made a fine address on organization and all matters tending to promote the welfare of the profession.

Col. R. L. J. Smith, one of the city's leading attorneys, made a most happy welcome address, which was interspersed with the wit and humor for which he is noted. Dr. V. D. Lockhart, of Maysville, responded to the welcome in appropriate words. "A Study of Ethics" was a good paper presented by Dr. Lockhart, and went fully into this important subject. "Glycosuria" was the subject of Dr. P. Y. Puckett, of Cornelia, and showed close study on the author's part. Many valuable points were brought out in Etiology, Diagnosis, Treatment and Prevention of this widespread disease.

"Proper Legislation to Make Our State

Health Department More Efficient and More Valuable" was the subject of Dr. L. C. Allen, of Hosehton. He showed the necessity of an appropriation to make our vital statistics and public health laws available. Dr. Allen is a member of the legislature and is devoting all his energies to improvement of our general health conditions.

Dr. W. B. Hardman brought a series of patients before the society to show some of his recent work in Brain Surgery, in which prompt relief was had. It was a class of cases that was formerly considered hopeless, but this idea has been refuted by prompt operation procedure. Dr. Hardman also spoke of the Appendix, which he termed "The Sneak of the Abdomen." He advised immediate operation in all inflammatory conditions of this appendage. The discussion of these various subjects was full and free and was participated in by a large number of those present.

One of the most pleasant features of this meeting was the attendance of a large number of the ladies and leading citizens of Commerce. The ladies' presence inspired the speakers, who vied with each other in their compliments to them. At noon a basket dinner was served under the spreading oaks of Willoughby Park. Everything that would tempt the appetite was there, and it suffice to say that ample justice was done to this bounteous repast.

Several good papers on the program were not reached owing to lack of time. The next meeting will be held at Hosehton the third Wednesday in March, 1916.

The Ninth District has a very large area comprising eighteen counties, and owing to the fact that the Blue Ridge Mountains run through the center of the district, it is almost impossible for those living in, and beyond, the mountains to attend meetings on the south side. The society was organized in Gainesville in 1909, and has held meetings in Hall, Stephens, Habersham, Jackson and Gwinnett Counties. Its members live in these counties, White and Forsyth.

There is in the district approximately 250 physicians. In view of the situation it seems that it would be a wise plan to divide the district and organize another society on the north side so that its meetings would be accessible to those living in that territory.

Does your card appear in the Professional Directory?

"LOCAL INDUSTRIES AND THE SOFT PEDAL."

A peculiar situation developed in Rochester, N. Y., recently, relative to a lecture that was to be given before the American Public Health Association on "The Patent Medicine Fraud" by a physician connected with the Department of Health of New York City. In the apparent fear that the speaker who was to turn the light on the "patent medicine" business might refer to the local industries in that line, a Rochester physician wrote to the New York Health Department intimating that a discussion of local frauds would be undesirable. For a while the place the lecture would have on the program was in doubt. After some correspondence between the health commissioner of New York and some of the members of the local program committee of the American Public Health Association, a place was finally found for the lecture. It was delivered the night before the American Public Health Association convened. Naturally, the lecturer mentioned the two most widely advertised "patent medicine" frauds emanating from Rochester—"Duffy's Malt Whiskey" and "Warner's Safe Remedy." The lecture was well attended, and from all reports was appreciatively and enthusiastically received by the audience. What did the Rochester newspapers do about it, asks The Journal of the American Medical Association. Some of them practically ignored it. The others gave a general report of the lecture, but carefully avoided mentioning by name any of the nostrums with which the lecturer dealt. Ordinarily one would suppose that a specific denunciation of an important local industry would be considered news and, according to all the tenets of newspaper faith, it is news. So far as the newspaper-reading public of Rochester is concerned, however, unless it receives its information from other sources, it will never learn that "Duffy's Malt Whiskey" and "Warner's Safe Remedy" were explicitly and definitely denounced in a public meeting held in their own city under more than ordinarily auspicious circumstances. The damper pedal was successfully depressed. Whose was the foot?

An advertisement in The Journal of the Medical Association of Georgia will bring results. Rates sent on request.

MEDICAL LICENSURE.

The responsibility for the licensing of medical practitioners has been left by the national government to the individual states; it is left to the state to establish the only legal barrier possible between the public and the thousands who seek authority to treat human diseases. Some states have provided an efficient guaranty that practitioners given the state's endorsement have secured the essential educational qualifications. In some states, however, the responsibility has been taken up in such a happy-go-lucky manner, and the legislation provided is so contrary to effective legal procedure, that the situation would be laughable, were it not for the serious menace to the public. In some states, laws have been passed, admirable in their composition and excellent in their purpose, only to be invalidated by clauses or by other laws exempting the very persons to whom the law should apply. Invariably, the exemptions are of those unable to comply with the educational requirements of the practice act and against whom the people most need protection—those who have had little or no medical training. The making of such exemptions, either by special clauses in the practice act or by laws providing special boards and lower educational standards, is clearly perverting medical licensure, so that instead of protecting the public against the incompetent, it is providing special privileges for the incompetent, untrained men and women parading as the apostles of some "new and marvelous" form of healing. Legislators have yet to learn, says The Journal of the American Medical Association, that the art of healing is not gained by birth or by inspiration, but by a rigid and prolonged course of training in the fundamentals of medicine. The only way to make medical licensure a real protection of the public is to provide one licensing board in each state with ample power to apply one educational standard alike to all practitioners of the healing art.

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NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

A REMINDER.

The Editor has had numerous requests from members who contributed papers at the Macon meeting, to publish their papers in immediate issues. While, as a matter of personal friendship, he would like to accommodate these members, he feels that he can not deviate from his usual rule of publishing papers in the order of their appearance on the official program. This is the usual custom with all official journals, and while we occasionally place a paper out of its order, it is always for some good and sufficient reason, such as filling a necessary space, lack of discussion, particular applicability, etc.

We feel sure that each member having made such request will feel that the small favor might easily be accorded him, but if he will bear in mind that his request is only

one of about fifty that have been made, each urging the early publication of his particular paper, he will easily understand the predicament of the Editor.

Likewise attention must be called to the publication of papers read at Association meetings, in journals, other than the official publication. All such papers are the property of the Association, and their publication elsewhere is a violation of the By-Laws, and renders the offender liable to the Association.

We often feel like admonishing our members by making a slight change in the oft-quoted Western placard, so as to have it read, "Please don't shoot the **Editor**, he is doing the best he can."

DR. J. B. BRANCH.

This news item must necessarily be tinged with both pleasure and regret. The versatile gentleman above-named can do more things in a week than we ever imagined possible. Let us itemize: Left Macon. Got married. Started on a honeymoon. Got a professorship in a Medical College in China, also a position as surgeon for a large hospital in the Orient. Accepted both positions. Resigned as councillor of the Medical Association and started on his Far Eastern journey, accompanied by his bride. We will miss him, but our best wishes go with him wherever he may be.

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MEETING TRI-COUNTY SOCIETY.

On Wednesday, August 11th, the Tri-County Medical Society held its sixth annual barbecue, this time at Arlington, Ga. The meeting was well attended by the members, as well as augmented by a large number of visitors.

Both morning and afternoon sessions were held and many interesting clinical cases were presented. The following papers were read:

(1) "Pellagra"—Dr. W. E. Saunders, of Arlington.

(2) "Acute Rheumatic Arthritis"—Dr. J. L. Cheshire, of Damascus.

(3) "A Unique Case in Gunshot Wounds"—Dr. J. G. Standifer, of Blakely.

(4) "Otitis Media in Children"—Dr. E. F. Sapp, of Albany.

At the noon recess a splendid barbecue was served at the park by the ladies of the Society.

The Tri-County Society, embracing the counties of Early, Calhoun and Miller has some twenty-six names on its rolls this year and boasts of being one of the liveliest and best of the local units of the State Association in South Georgia.

The officers of the Society include:

President, Dr. W. C. Hays—Colquitt.

Vice-President, Dr. W. E. Saunders, Arlington.

Secretary and Treasurer, Dr. J. G. Standifer—Blakely.

The Tri-County Society will hold its next regular meeting at Blakely, Ga., in November.

CONTROLLING CANCER IN ENGLAND.

Portsmouth was the first municipality in England to undertake a public educational campaign for the control of cancer, and it would appear that the measures adopted in 1913 are already taking effect. The annual report of the Medical Officer of Health, Dr. A. Mearns Fraser, for the year 1914, which has just been received, states that there were only 197 deaths from cancer in Portsmouth last year as compared with 230 in 1913. This decrease, which occurs in the face of an increase of population, is hailed with satisfaction by the Portsmouth sanitary authorities as justifying their efforts to reduce the cancer death rate by persuading persons who are attacked with this disease to avoid delay and to seek treatment before it is too late

for more than palliative measures. Dr. Fraser reports that from statements made to him by local medical men the publication of circulars and newspaper articles by the Health Department has been instrumental in inducing a number of persons suffering from early operable cancer to secure treatment, the result of which it is hoped will be permanent.

When the educational measures were put in force two years ago, the cancer death rate of the city had for a long period been increasing. Twenty years ago the average death rate from cancer in Portsmouth was 6.79 per 10,000 of the population, but in 1913 it had risen to 9.16 per 10,000. In that year the total number of deaths was only 34 less than were caused by tuberculosis. While admitting that the increase in the recorded cancer death rate might have been caused in part by improved methods of diagnosis, the Health Committee of the Portsmouth Town Council nevertheless believed that the present number of deaths was unnecessarily large, and they felt it incumbent to adopt whatever measures might lessen the ravages of the disease. The initiative came from Dr. Charles P. Childe, senior surgeon of the Royal Portsmouth Hospital and a member of the Health Committee of the Town Council. As early as 1906 Dr. Childe, in his book, "The Control of the Scourge," had given to the public the benefit of his extended experience with cancer. At his suggestion the Portsmouth authorities in 1913 began a campaign of public education under the official auspices of the Health Department. The methods adopted included the monthly publication in the local newspapers of articles regarding cancer and the printing and distribution of a Health Department circular on the subject. Arrangements were made for periodical lectures to midwives, nurses, and to those engaged in social work in Portsmouth. The Health Department further made provision for free microscopical examinations and reports on suspected cancerous growths in order to assist physicians in immediate diagnosis in the case of patients who were unable to pay for such laboratory service. The experience of the Portsmouth authorities had been that by far the majority of patients who presented themselves at hospitals suffering from cancer exhibited the disease in a stage too advanced to be cured. It was held that the reason for this delay in seeking advice was not as a rule be-

cause patients feared operation, but because they were ignorant that they were suffering from anything serious until they began to suffer pain. The fact that cancer at its onset is almost always painless should be widely realized in order that the public may learn the importance of other symptoms which will enable them to recognize the disease in the early stages when it can nearly always be successfully removed by competent surgery.

FIFTY FALSELY LABELED MEDICINES.

Federal Courts Condemn Goods or Fine Many Patent Medicine Manufacturers. Fifty Patent Medicines Proceeded Against for Fraudulent Claims as to Curative Powers of Products.

Washington, D. C.—More than half a hundred legal actions have been terminated successfully under the Sherley Amendment to the Food and Drugs Act, which prohibits false and fraudulent claims as to the curative or therapeutic effects of drugs or medicines. Criminal prosecutions against the manufacturers were brought in 25 cases, but in 31 instances the falsely and fraudulently labeled medicines were seized while in interstate commerce. Claims made by the manufacturers for the curative powers of these preparations ranged from tuberculosis, smallpox and diphtheria to coughs, colds and scalp diseases. A number of other criminal prosecutions and seizures are pending in various Federal courts throughout the United States because of alleged violations of the Sherley Amendment similar to those which have already been tried. The officials charged with the enforcement of the Food and Drugs Act are of the opinion that the evils of the patent medicine business can be stopped only by the most drastic action.

It is pointed out that traffic in medicines for which false and fraudulent claims are made is not only an economic fraud of the worst kind, in that a worthless preparation that costs but a few cents is frequently sold for a dollar or more a bottle, but that health, and even life, is endangered by failure to secure the service of a physician in such serious diseases as tuberculosis, diphtheria, pneumonia and scarlet fever, until too late, because reliance may have been placed in the curative powers of some worthless preparation which is claimed to be a never-failing remedy. The deluded victim may not realize his danger until the disease has reached a stage too far advanced for even the ablest physicians to cope with it. Effective treatment depends in most cases on applying it during the early stages of the disease.

Suggestive Name of "Family Physician" Fails to Save This Preparation.

The Houehens Medicine Company, of Baltimore, Md., pleaded guilty to the charge that a preparation called "Family Physician" and shipped by them into interstate commerce was falsely and fraudulently labeled. Among the many diseases for which this medicine was recommended by the man-

ufacturers in statements appearing on the labels and accompanying circulars were diphtheria, scarlet fever, typhoid fever, smallpox, bronchitis, neuralgia, erup and all diseases of the throat and lungs. The following quotations from the label, carton, or circular are interesting: "The public is hereby assured that this is the Genuine and Original Family Physician. * * * For fever you need not give anything else but this medicine; it will keep the rash out itself. * * * For cases of smallpox take plenty and often—Use freely. Give no hot teas, just give the medicine and what pimples are under the skin will come out, the rest will be carried off by the medicine. * * * Also a wonderful and positive remedy for dyspepsia, keeps measles out nicely, regulates the bowels without trouble, and by purifying the blood prevents your liability to disease."

Analysis of the product, which was claimed by the manufacturer to be effective in the treatment of so many virulent and contagious diseases, as well as a variety of minor ills, showed that it was a sirup containing 19.2 per cent non-volatile matter, 8.9 per cent alcohol, anise, and a vegetable cathartic drug. The government, therefore, charged that the medicine did not contain ingredients or medicinal agents effective for the relief and cure of the disease which it was claimed to cure. The court imposed a fine of \$75.

Remarkable Claims for Dr. H. A. Ingham's Vegetable Expectorant Nervine Pain Extractor.

A plea of guilty was entered by H. A. Ingham & Co., of Vergennes, Vt., to the charge that statements and claims as to curative powers of a product called "Dr. H. A. Ingham's Vegetable Expectorant Nervine Pain Extractor" were false and fraudulent. An analysis of a sample of the product by the Bureau of Chemistry showed the same to contain alcohol, 86 per cent; opium alkaloids, camphor, capsicum, and vegetable extractive matter. The government, therefore, alleged that the medicine did not contain ingredients or medicinal agents effective, as the labels or circulars asserted, to subdue raging fever, or to cure typhoid fever, lung fever, scarlet fever, rheumatic fever, cholera, dysentery, sunstroke, diphtheria, bleeding at the lungs, nervous exhaustion, or piles, or to prevent fits of apoplexy and epilepsy when coming on, or to heal without inflammation or suffering all wounds, sprains, or burns, or to

break up a felon, or to cure congestion of the lungs, pleurisy, fits of apoplexy, chronic rheumatism, paralyzed limbs, and croup.

It was also alleged by the Government that the statements "For teething and restless children, it is not only safe and harmless, but positively beneficial; it agrees with the most tender child or feeble infant," were false and misleading in that they were of such nature as to mislead the purchasers into the belief that the article contained no harmful or poisonous ingredient, whereas, in fact it did contain morphin and other opium alkaloids of a poisonous and deleterious nature, such as might prove harmful and deleterious to the health of tender children and feeble infants, and other persons, if consumed by them. The court fined the defendant \$100.

Seized Four Thousand Bottles of "Father John's Medicine."

Four thousand and ninety-two bottles of "Father John's Medicine" were seized in Philadelphia, Pa., it being alleged in the libel that the labels on the bottles and on the pasteboard packages containing the bottles bore statements regarding the curative effects of the medicine that were false and fraudulent. Claims were made by the manufacturers for the efficacy of the medicine in the treatment of consumption, coughs, colds, croup, asthma, bronchitis, sore throat, whooping cough, pneumonia, catarrh, rickets, and a number of other ailments. A judgment of condemnation and forfeiture was entered, and it was ordered by the court that the product be delivered to Carleton & Hovey Company, Lowell, Mass., upon payment of all the costs in the proceedings and the execution of a bond in the sum of \$5,000, to insure that the goods would not be sold unless truthfully relabeled.

Jury Says "Guilty" for Misbranding "Bad-Em-Salz."

A verdict of "guilty" was rendered against the American Laboratories, a corporation located at Philadelphia, Pa., for shipping into interstate commerce a product called "Bad-Em-Salz," which, it was alleged, was falsely and fraudulently labeled. An analysis of a sample of the product showed that it consisted of common salt, Glauber salt, baking soda, and a small amount of tartaric acid. It was claimed by the manufacturers that this preparation reproduced the medicinal properties of the great Euro-

pean springs famous for centuries for the cure of diseases of the stomach, intestines, liver, kidneys, or bladder, and that it represented the medicinal agents obtained by the evaporating of the water from famous European springs. The Government alleged, among other things, that these claims were false and misleading. It was also alleged that the statements in the circular indicating that the preparation contained ingredients or medicinal agents effective for dissolving gall stones, for the prevention of gastritis, for curing diabetes, for preventing or checking chronic inflammation of the kidneys, and for relieving catarrh of the bladder, were false and fraudulent. A fine of \$100 was imposed by the court.

Long List of Other Misbranded Medicines.

The following list includes other preparations against which the Government's charge that they were falsely or fraudulently labeled was sustained by the Federal courts. Statements were made on the labels of, or on the circulars accompanying, the preparations intended to make the purchaser believe that the medicines were effective cures for a great variety of diseases for which they were recommended by the manufacturers or promoters. The main allegations of the Government were upheld by the courts and judgment accordingly entered in connection with each of the following preparations:

- Radam's Michobe Killer.
- Hilton's specific.
- Smith's Agricultural Liniment.
- Dr. Sullivan's Sure Solvent.
- Russell's White Drops.
- Stramoline.
- Wild Cherry Pepsin.
- Moreau's Wine of Anise.
- Dr. Herman Koch's Brand Phosphate, Celery and Gin Compound.
- Swissco Hair and Scalp Remedy
- Cod Liver Oil with Syrup of Tar.
- Dr. Mozley's Lemon Elixir.
- Sa-Yo Mint Jujubes.
- Gray's Glycerine Tonic Compound
- Dr. Martel's Female Pills.
- Quickstep, Frye's Remedy.
- Seawright's Magnesian Lithia Water.
- Hill's Aromatic Ext. Cod Liver Oil (Hollander-Koshland Company).
- Black's Pulmonic Syrup.
- Tetterine.
- Laxative Quinine Tablets.
- Mrs. Joe Person's Remedy.

Maignen Antiseptic Powder.
 Cranitonic Scalp Food-Hair Food.
 Dr. David Kennedy's Cal-Cura Solvent.
 Schenck's Pulmonic Syrup.
 Keller's Flaxseedine.
 Tutt's Pills.
 Universal Rheumatic Remedy.
 Green Mountain Oil.
 Weber's Genuine Alpine Herb Tea.
 Montague's Liniment.
 Coe's Cough Balsam.
 White Stone Lithia Water.
 Kalamazoo Celery and Sarsaparilla Com-
 pound.
 Quality Damiana Compound.
 Dennis Eucalyptus Ointment.
 Cassidy's 4X The Great Blood Purifier.
 Porter's Antiseptic Healing Oil.
 Ballard's Horehound Syrup Compound.
 Dr. Shoop's Night Cure.
 Dr. Shoop's Cough Remedy.
 Dr. Shoop's Restorative.
 Rheumacide.
 Rice's Mother's Joy Salve.
 Milam.
 Old Jim Field's Phosphate Dill and Gin.
 Stuart's Buchu and Juniper Compound.
 Ozomulsion.
 Jones' Break Up.
 Carswell's Liver Aid.
 Dr. Shoop's Twenty-Minute Croup Remedy.
 Rogers' Consumption Cure and Cough
 Lozenges.
 Rogers' Inhalant.

BOOK REVIEWS

SYPHILIS AS A MODERN PROBLEM.

By William Allen Pusey, M.D., Professor of Derma-
 tology in the University of Illinois. Price, cloth,
 50 cents; paper, 25 cents. Pp. 129. Chicago:
 American Medical Association, 1915.

The following review appeared in The Journal of the
 American Medical Association for September 18, 1915, p.
 1051.

This book is a monograph reprinted from
 the Commemoration Volume issued by the
 American Medical Association "as a tribute
 to the medical sciences which made possible
 the building of the Panama Canal and the
 Panama-Pacific Exposition."

The publication of this discussion of the
 present status of one of the so-called three
 great plagues—syphilis, tuberculosis and
 cancer—is opportune. Two decades ago tu-
 berculosis, the fellow of syphilis in this triad

of diseases, was as little understood by the
 everyday man as syphilis is today. In the
 comparatively brief interval of twenty years,
 a campaign of education and organized pro-
 paganda for the combating of consumption
 has transformed the situation. The forces of
 intelligent public opinion and of public and
 private funds, and the power of disinterested
 men and women have brought into being a
 great system of physical and educational aids
 for the tuberculous which have begun to
 realize their full possibilities. Against cancer
 our ignorance limits our capacity for effec-
 tive control. Yet even in the case of cancer
 there are large endowments for study, and a
 consistent campaign for the better education
 of the public is under way.

Against syphilis, on the other hand, little
 or no social headway has been made. The
 confounding of the sanitary aspects of a com-
 municable disease with questions of morals,
 and the effects of a traditional prudery have
 stifled advance in the social control of this
 disease. The United States is conspicuous in
 this backwardness. In strange contrast with
 this situation, medical knowledge of syphilis
 has advanced in the last decade with unpar-
 alleled rapidity. At the present time it is
 safe to rank the strategic position in regard
 to its sanitary control as equal to that for
 the control of malaria and yellow fever. In
 one direction, medicine holds syphilis in the
 hollow of its hand; two generations of intel-
 ligent attack could see it reduced to the
 status of sporadic infection. In the other di-
 rection, the unwillingness to act of the pub-
 lic, on whom help depends, has prevented all
 organized effort for the control of this dis-
 ease. Syphilis is a sanitary problem, that it
 must and will be solved by society sooner or
 later is inevitable. Its importance can not
 be exaggerated! It breeds misery and per-
 petuates it. It is a source of public cost, a
 drain on human efficiency, and a stumbling
 block in the progress of mortality and de-
 cency whose all-pervading influence is appre-
 ciated only by those who work with it all
 the time. Into this situation, Dr. Pusey's
 book projects itself with a peculiar force. It
 considers syphilis from the standpoint of its
 effect on society; not as a disease which medi-
 cine is called on to treat. The whole subject
 is broadly sketched; its course and its pathol-
 ogy are given in sufficient detail to allow the
 reader to get a mental picture of the disease.
 Preceding this there are three chapters on
 the history of syphilis, the most complete

statement of this subject in English, which furnishes a unique historical perspective. The rest of the book concerns the study of the general problems of syphilis; the prognosis of syphilis; syphilis and marriage; the etiology of syphilis, and the prophylaxis of syphilis. In these chapters, such subjects as the relative frequency of tabes and paresis, the effect of syphilis on length of life, the time when the syphilitic may marry, the prevalence of syphilis, its comparative frequency in men and women, the question as to whether or not syphilis is on the increase, and syphilis and prostitution are considered. The whole book is a foundation for the last chapter—the prophylaxis of syphilis. Here the author shows how syphilology has finally arrived at a point where the prevention of syphilis is practicable by sanitary measures. He points out what these measures are, and so furnishes the strongest argument for the inauguration of an organized sanitary attack on this disease.

The work is eminently sane and without sensationalism or exaggeration. It does not affront with needless horrors, nor is it written in the spellbinding style of campaign literature. The book is fitted to serve as a guide to a sustained and effective interest in the problem on the part of intelligent readers. It is not a medical textbook, nor is it a primer. It is intended for the intelligent lay reader, but it may be read with equal profit by the intelligent physician. It considers syphilis from a detached point of view, from which point the physician ordinarily does not think of it. It is filled with facts which are carried through to legitimate conclusions, and from which are deduced practical suggestions, and is worthy of the thoughtful consideration of intelligent men and women.

COUNTING THE WORLD'S COST.

In these days of nearly world-wide conflict between nations, it is reassuring and comforting to know of one campaign in which all civilized nations are allies in a common cause. The neutrality of science has been a subject of frequent comment, especially during the past year. The fight between the human race and disease is carried on without regard to diplomatic agreements or international boundary lines. Probably the only organizations or institutions in existence today which are carrying on their work regardless of warring nations are those engaged in

scientific work. Of these, the International Office of Hygiene in Paris is perhaps the most conspicuous example. The British representative, Dr. R. W. Johnstone, now acting as official epidemiologist of the international office, has just issued a report showing the progress of plague, cholera and yellow fever throughout the world, as shown by the reports received and tabulated at the Paris office. The report is complete for 1913, the 1914 material having not yet been completed. According to this report, bubonic plague prevailed to some extent in 1913 in almost every part of the world, there being as yet no evidence that the present world-wide epidemic of this disease, which started about twenty years ago, has begun to subside. A marked decrease was shown in India, where, in 1911, there were 846,873 deaths from this disease, while in 1913 there were only 217,148. On the other hand, the reports for 1914, so far as received, show an increase. Cholera was also less prevalent in India in 1913 than in previous years. There were no serious epidemics of yellow fever during the year in any part of the world. As *The London Lancet* well says, in commenting on Dr. Johnstone's report, these annual summaries possess more than a passing interest. They place on permanent record many facts, the true value of which is more likely to be recognized in the future than at the present time. They will be of service as works of reference to future students of bubonic plague, when the great pandemic now prevailing has spent itself and disappeared. The same remark holds good as regards cholera and yellow fever, both of which may before long, we hope, come to be placed on the list of disappearing diseases. The time will come, predicts *The Journal of the American Medical Association*, as scientific knowledge increases and its more thorough practical application becomes possible, when the only knowledge the human race will have of these diseases, which have devastated mankind since the dawn of history, will be the records of past epidemics. Our knowledge of such epidemics in previous generations is vague, and is based largely on general statements. Definite records from year to year of the gradual decrease of preventable diseases will be of the greatest scientific value to future generations.

An advertisement in *The Journal of the Medical Association of Georgia* will bring results. Rates sent on request.

THE DIFFICULTY OF SUPPLYING ARMY SURGEONS.

The difficulty of supplying army surgeons for the new British Army continues to occupy the medical authorities as well as the government. At a meeting of the War Emergency Committee of the British Medical Association, the present position was stated as follows: (1) The number of men already on whole-time war service totals 5,265; (2) the number of men of 50 and over offering whole-time war service, 447; (3) the number of men from 40 to 49 offering whole-time service, 436; (4) the number of men of 40 and under offering whole-time war service, 633, and (5) the number of men 40 and under not on or offering whole-time war service, 6,555 up to date. It is seen, therefore, that there are approximately 6,555 medical men of military age in England, Wales and Ireland. Of these it is necessary at present to obtain the services of about one-third. Upward of 900 men over military age are offering whole time. The military authorities say that if these men could be induced to take up war locum work, as they are for the most part not wanted by the authorities, they would set free a number of men who are unable to go unless they can obtain substitutes, local help not being available. Professor Littlejohn pointed out that the war office required at the present moment 2,000 out of the 6,555 men of military age still available in England, Wales and Ireland, for the proceedings of the War Emergency Committee did not deal with Scotland, where an effective national committee exists. The large number of young military men at the base hospitals, many of whom had, in ordinary circumstances, not enough work to fill their time, was criticized. Sir James Barr pointed out that it was the number of younger men, some of whom he understood had joined only for home service, which was the objectionable feature. These younger men ought to be with the expeditionary force and not at the base hospitals, says the London correspondent of The Journal of the American Medical Association in a recent letter.

Many medical students have for a time abandoned their studies and joined the combatant ranks of the army. The need for army surgeons is so great that those near the completion of their course were asked to return to their schools and complete their studies so as to be able to join the army in

their professional capacity. The medical department of the war office requires as many doctors as it can obtain. The civil hospitals and the health departments are working with short staffs. The roll of medical casualties continues. As the army grows, more doctors will be required and still more. The number of medical students is dangerously low, and the "visible supplies" are not so large as might be hoped. The war office recommends that "medical students in their fourth and fifth years should continue their studies with a view to qualifying as soon as possible," and discourages the granting of commissions to these men, but is unwilling to suggest that junior (medical) students should be discouraged from taking combatant commissions. It is contended that this recommendation will have the effect of using up all the visible supplies of medical students and emptying the medical schools, so that three or four years hence the number of physicians will be even lower than at present. This number was too low before the war, partly in consequence of the increased medical work under the insurance act.

FLIES AS A CAUSE OF INFANT DIARRHEA.

Modern public health work is necessarily a mixture, in varying proportions, of practical sociology and applied public hygiene. To-day, when co-operation and economy in administration are being sought for in all lines, it is not strange that a combination of practical philanthropists and public officials should be regarded as desirable in attacking a social problem. An excellent illustration of such co-operation is to be found in the study of the relation between flies and diarrheal disease in infants, being made under the joint direction of the Bureau of Public Health and Hygiene of the New York Association for Improving the Condition of the Poor, and the Department of Health of New York City. A report of the second year's investigation on this subject is a valuable contribution to our knowledge regarding the relationship between flies, dirt, feeding and diarrheal diseases among infants. The problem, as stated in the report, involves an effort to answer the following questions:

Is the house fly the chief carrier of diarrhea to New York babies, or has it more deadly rivals.

Should some of the energy now expended in fly-swatting be diverted to other details of home hy-

giene, or should the hue and cry after this insect pest be redoubled in volume?

Do the fly-exposed infants suffer more than the infants in dirty homes, or than infants who are artificially fed?

In a word, the object of the two years' inquiry is to determine the relative importance of the fly in the causation of infant diarrhea. We shall not attempt to discuss in detail the many interesting facts presented, the tabulations given and the methods of investigation and education followed. The conclusions, as summarized in the report, show that almost twice as many infants have diarrhea in dirty homes as in clean homes. On this showing, the relative importance of flies and dirt in the production of this disease seems to be about the same. Artificial feeding, however, was found to be a more important factor than either of the others. Almost two and one-half times as many infants were attacked by diarrhea among artificially fed as among breast-fed infants. If it had not been for careful selection of food and instruction to mothers, the proportion of cases among artificially fed infants would have been even higher. As it is, the influence of flies and dirt combined is of about the same importance as artificial feeding alone in the production of this disease. Artificial feeding and dirt combined are responsible for a still larger percentage of the cases, three and one-half times as many artificially fed infants in dirty homes being attacked as in the case of breast-fed infants in clean homes. While the report shows that flies form one of the three main causes for diarrheal diseases among infants, and constitute one of the two lesser causes out of the three, the demonstration that twice as many infants are the subject of diarrheal diseases among fly-exposed as among fly-protected infants is, in the opinion of The Journal of the American Medical Association, ample justification for continued prosecution of the antily campaign. The ideal condition for the reduction of the infantile death rate to the minimum is breast-feeding in a clean and fly-protected home for each baby.

PREVENTABLE INJURIES OF THE EYE.

Much has been done in recent years to protect the eyes of workmen from injuries, and the number of eyes thus saved has been considerable. Even with all these precautions, however, accidents are bound to happen, but

if the sight of an eye is occasionally lost through some unavoidable accident, we can feel that everything possible has been done to prevent it. How different are our feelings when we see an eye destroyed through some accident that could easily have been avoided. Many a mother has wept bitter tears of anguish knowing that she alone was to blame for the loss of sight in her baby's eye through her carelessness. If she had not allowed the child to get within reach of scissors, pins, knives, etc., or perhaps if the child had not been allowed to run across the room with the doll in her arms, she would not have fallen, breaking the doll's eyes and having her own eyes cut by the broken bits of glass. Many of these preventable accidents can be avoided by using a little care and ordinary common sense. Not alone in the care of infants, but with adults engaged in ordinary household employments as well as a little extra precaution will often prevent serious results from apparently trivial accidents. For example, eyes have been irreparably damaged by flying bits of glass from a broken tumbler; by a tack flying into the eye, in laying a carpet; from a small bit of lime falling from a broken ceiling; from stooping in a dark room and striking the eye on the sharp corner of a table or chair. In fact, the possibilities of accidents of this sort are innumerable, where a little less haste perhaps, or a little extra care would prevent them.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in your pocket.

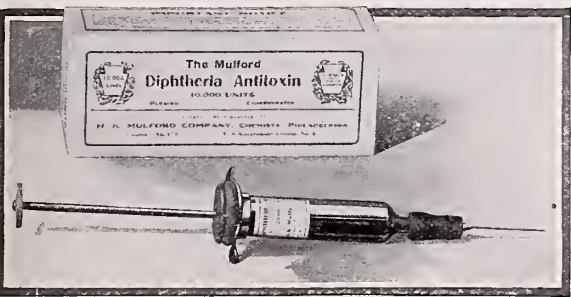
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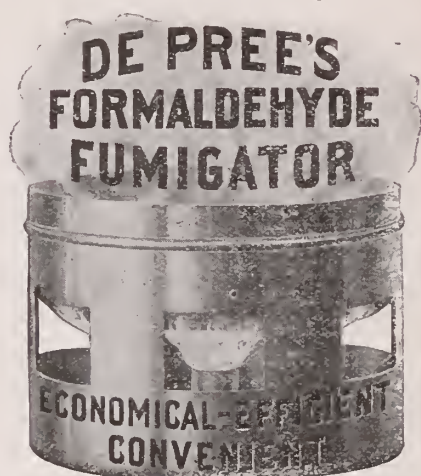
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AUGUSTA, GA., NOVEMBER, 1915.

No. 7

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REPORT OF TUMOR FORMATIONS OF UNUSUAL INTEREST WITH LAN- TERN DEMONSTRATIONS.*

By E. C. Davis, M.D., Atlanta, Ga.

The presence of adventitious growths in unexpected locations is always a matter of great interest when these happen to be tumors, especially if malignant ones the interest becomes very intensified. The ordinary malignant growth is of such frequency as to merit no special attention unless something may be offered new for its relief. Those out of the ordinary, either in structural arrangement or location, occupy a different position and are pregnant with interest, either from their rarity, their unexpected presence or apparent curative termination when prognostics were unfavorable.

Some of the cases which I trust to show you in these demonstrations, will illustrate some of the phases of this subject and while they may not appeal to you with the interest they manifested to me, I trust that the detail of their existence, the method of handling and subsequent histories, may prove

of interest, to say the least. We have selected only a few of a large group of cases that had for me an especial interest.

Another feature that should be impressed upon us is that the abdominal surgeon should be prepared to handle any complication arising within the abdomen, for so often unexpected conditions are found which may require special training or skill in this work. The time will soon come when the man who has not been specially trained will not undertake abdominal surgery, realizing that what externally appears to be a very simple condition, occasionally proves to be the most complicated, requiring the exercise of superior skill and experience to extricate himself from a very embarrassing surgical complication.

The first of these cases is a striking illustration of the truth of this position, for the presence of this tumor, while recognized, was not known to be so intimately attached to the colon, nor was the extensiveness of the operative procedures suspected before the operation was begun.

This case also illustrates a subject attracting great attention throughout the world today, and while this phase is but a part of the subject most considered, its method of handling is especially interesting.

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

The resection of the colon is now quite a common occurrence and should be passed without special notice, but the end to end anastomosis of the colon without leakage and apparently without stricture is the most attractive feature. The anatomy of the colon with the part unprotected by its serous coat exposes it to dangers of devitalization and necrosis with leakage and either a fecal fistula or general peritonitis. Nothing of this kind, fortunately, happened and the results so far have been more than gratifying.

Another special feature that must be emphasized is that there is too much carelessness or laxity in entering upon surgical operations. There is no man today who will allow his automobile to be taken down and repaired until a careful examination of its parts has been made, and this must be done by an expert, yet these same men will allow the members of their families or their patients to undergo the most serious operations without the painstaking preliminary examinations, both clinical and laboratory. Of course, this does not apply to emergencies which nowadays constitute but a very small proportion of the operations performed. We have made it a rule to not alone make a careful clinical examination of all patients coming for operations, but also to add to the usual laboratory examinations a careful Wassermann, often an Abderhalden for pregnancy, a tuberculin test and a careful X-Ray when indicated. These must all be made by experts, as the interpretation of findings is the most important part of the work. Would like to add to this, if possible, careful autopsies when a death occurs, conducted by a skilled pathologist, with either the surgeon or one of his assistants present to observe the findings. When such a plan is carried out consistently, better results will be obtained and surgery placed upon a more dignified scientific basis.

The following cases illustrate several surgical problems. The pathological work in all of these cases has been done by Dr. Allen H. Bunce, of Atlanta, as well as the arrangement for all the lantern demonstrations. The illustrations have been made by Mrs. Papez, under the direction of Dr. Bunce, to both of whom the credit of this work belongs.

Case Mrs. ——. Age 44 years. About five years ago was treated for duodenal ulcer, making apparently a good recovery. While touring Europe during the past summer, visiting Paris, was seized with severe pain in

right side. A prominent French physician was summoned, who pronounced the condition appendicitis; after rest and restricted diet returned to her home. Several weeks later she consulted her home physician, who referred her to me for operation.

Family history negative, slight dysmenorrhoea, no leucorrhoea, constipation marked and pain worse when bowels are inactive. Took magnesium sulphate almost daily for constipation. On examination found laceration of the perineum, small mass in left iliac region, with marked tenderness over appendix area. Usual examinations were made and after favorable report, operations were performed. Operations were D. & C., perineorrhaphy, then on opening the abdomen and removing the appendix, examined the mass on the left side, finding it to be a tumor intimately connected with the colon just above the sigmoid, encroaching slightly upon its lumen. The colon was resected at a point above and below the mass and an end to end anastomosis was done. Fearing lest a leakage should occur a stab wound was made in the left side and rubber drainage tube and small wick of vansom tissue inserted down to point of intestinal union. This was allowed to remain for five days and after bowels had acted and no leakage occurred, this was removed. Recovery was uninterrupted. Bowels now are regular and patient has gained fifteen to twenty pounds in weight.

The tumor proved to be a mixed cell sarcoma, as shown by lantern slides, and does not appear to have extended beyond the tissue removed. There were no nodular masses contiguous and no evidence of tissue infiltration beyond area removed. This appears to have been a fortunate recognition early enough to prove beneficial.

Case Miss ——. Age 44 years; family history showed strong malignancy, several relatives having died of carcinoma. About six months previous to consulting me, suffered with severe pain in hypogastric region, with an increase in menstruation; later this became a marked metrorrhagia, lasting often as long as two weeks.

On examination a large uterus was found bleeding upon the slightest touch; the cervix was not markedly changed.

The abdomen was opened and body of uterus examined and removed, showing the adeno-carcinomatous mass as shown in illustration. The cervix was then removed and

a slight infiltration was observed in this tissue.

This latter would likely have been left had not Dr. Bunce reported the undoubted malignant character of the growth, after making a frozen section and examining it microscopically.

Case Mr. —. Barber, age 24 years. Several years ago noticed a small mass in right parotid region which was removed by local physician. Some months later it returned, and has grown slowly, attaining the size of a large walnut. He consulted Dr. R. B. Ridley, Jr., for several chelazions on upper eyelids, and Dr. Ridley referred him to me for parotid tumor.

This was an indurated mass more or less fixed and deeply imbedded. On dissecting this out, it was found firmly attached to parotid and passing behind the parotid sheath. The microscopic examination showed it to be a teratoblastoma.

Case Mrs. —. Age 41 years. Consulted me for malignant tumor of left breast with all characteristic symptoms. On examining left mammary gland, a small mass was also found there. Both were removed and Dr. Bunce reported the mass in left mammary as carcinoma and the right as adenoma, a benign tumor. This shows malignancy in one side and a benign tumor in the other.

These cases could all be greatly enlarged upon, but these should be sufficient to impress one with the fact that we should always be on the lookout for the unexpected in tumors.

Case Mrs. —. Referred by Dr. James. Mansfield, Ga. Age 31 years; married. History of metrorrhagia with pelvic pain. Examination showed enlarged very tender uterus. The cells in this had undergone such change as to create the impression that we had to deal with a squamous cell carcinoma of the body of the uterus instead of an adeno-carcinoma.

Case Mrs. —. Age 42 years; one child. Complained of pain in right side. Examination showed in addition to tenderness over appendix, a small growth protruding from cervix uteri. This was removed and a frozen section made, showing glandular hyperplasia of sufficient seriousness to justify a panhysterectomy. This was done, and later study has shown this to be early development of adeno-carcinoma, with numerous fibroids in body of uterus.

PRINCIPLES AND PRACTICE IN THE TREATMENT OF CANCER.*

By M. B. Hutchins, M.D., Atlanta, Ga.

The basic principle of the treatment of cancer of any type is, axiomatically, to remove or to destroy all disease. In regions where there is abundant loose tissue, in all metastatic cases, and in circumstances not presenting danger of incision transplantation of the disease, excision is best. After a short or long period of growth, the ultimate tendency of all malignant disease is to break down, soften or shrink in the center, or in the part which has outgrown its nutrition. For this reason, the danger area is the periphery of the growth, the actively-growing, well-nourished infiltrating cells and metastasis.

As preliminary to all treatment, it must be firmly kept in mind, first, the gentlest palpation or handling of any case in reaching a diagnosis, in outlining the area to be treated, and in the preparation of the patient for operation. This last care is often necessary to be impressed upon nurses and assistants. Forceful manipulation may easily increase the peripheral drift of cancer cells.

Second, the materials used for cleansing any open area must not be brought into contact with the surrounding skin. Before operation such areas should be "cooked" with an acid caustic or the actual cantery, or a pad of gauze placed over and stitched to the skin to fix in place the surface cells. These precautions are necessary to prevent implantation into the operative wound.

Of the two marked types of epithelioma, the basal celled is rarely metastatic, the prickly celled (squamous) rarely non-metastatic. The great majority of epithelioma above the contact line of the lips are local and never involve the lymph nodes. Most of the lower lip cases will metastasise if left to run a long enough course, but such extension is often delayed to very late.

Epithelioma of the tongue is early and rapidly metastatic. Carcinoma of the breast is now never treated by an operator of experience through simple mammeectomy, because all tend to metastasise. Roentgen rays and radium should not be used in any operable breast case, or other metastatic growth, but may be of use in preventing recurrence after

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

operation. Their use in hopeless cases may postpone the end, and make it more bearable, though some of these have actually been aggravated by radiation.

Occasionally an apparently inoperable case has seemed to have been made operable by radiation. As any trained surgeon knows, all metastatic cases must be subjected not only to wide excision, but gland areas, intervening tissues and original growth, must be removed in one mass.

Carcinoma of the stomach becomes hopeless early; and epithelioma of the penis shows rapid gland involvement. A basal celled type of epithelioma of the labia, usually following leukoplakia, is easily cured by proper excision, being non-metastatic.

For one reason or another, most of the cases of cutaneous epithelioma are treated by caustics, Roentgen rays or radium, diathermia, dessication or cautery. There is, now, to me, no field for plasters and pastes. There never should have been excuse for using mild caustics, as nitrate of silver. Bearing in mind that our hope of cure lies in eradication of the more vital, growing borders and infiltrates, we must endeavor to employ measures not alone sufficient to destroy the less active, old part, but the newer. A treatment sufficient for the former often acts as a stimulus to the latter. Caustic potash, having a marked affinity for epithelial cells, is the best of the caustics. Where there is much fibrous tissue in the lesion, an acid caustic, as the acid nitrate of mercury, may act better. In a few cases I have found it necessary to use each treatment with an interval between because of their antagonism.

A preliminary curetting away of all visible growth is desirable, whether caustic or radiation are employed, thus reducing the work to be done by the active agents, treatment to follow immediately. Roentgen rays and radium attack the disease cells first. They also first destroy the least vital and least active. Where there is abundant blood supply, or the cells are rapidly infiltrating healthy tissues, radiation often falls short of cure and actually stimulates growth.

Particularly should it be remembered that Roentgen rays have produced cancer and that this action is exaggerated where the disease already exists, if the rays are improperly employed. I have treated one radium burn to recovery.

In massive fungating epithelioma, I have had two parallel cases, each beneath the left

eye, of a man and a woman. One was cured by curetting and prolonged radiation, the other by curetting and through application of caustic potash.

Caustics, Roentgen rays and radium are about equally efficacious in curable cases. Diathermia, the application of heat by means of high voltage electricity, holds the same danger of stimulating active disease. Dessication, by high frequency electricity, with special apparatus, seems to offer no advantages compensatory for its cost. Fulguration, another high voltage treatment, has some advantages in inoperable cases, and has been used as a prophylactic after operation. The thermocautery, often recommended by good authorities, has proven a disappointment to me, though I have to its credit two cures of small epithelioma of the tongue.

Save in cases of localized epithelioma or any form of cancer with little or no metastasis, the majority of cancer cases operated upon carry a bad prognosis. Surprising success, however, is sometimes attained as in an enormous, infected, fungating carcinoma of the breast, where the major operation was done eleven years ago, the patient still alive without recurrence. Often these breast cases with wide metastases are better after operation in that internal metastasis or involvement of meninges or brain give the patient a cleaner and more comfortable end. My slight experience with uterine, or cervical, cancer has covered palliative treatment only. Roentgen rays and actual cautery failed even to afford much relief. Curettage and filling of the wound with acetone, the latter repeated every few days, checked ulceration and odor in one case, and in another seemed to have produced a cure.

In extensive destructive epithelioma of the face, even to involvement of bones, I have repeatedly had patients anaesthetized with gas-oxygen, curetted away all visible disease, and applied the stick caustic potash vigorously. By this means some extra good effects have been obtained, one case living over three years after being pronounced hopeless. I have seen an epithelioma the size of a chestnut go into cancer quacks' hands, the patient dying in eight months, another within two and a half years.

One case of mine, involving the right temple, of ten years' duration, has now been under my treatment four years. Roentgen rays, caustics, cautery, palliatives. The man

is still in active business and the disease is yet amenable to gross & heroic treatment.

The majority of sarcomas have come to me in far advanced hopelessness. Coley's fluid, trypsin, surgery, all failed. Only two or three have recovered, one involving the cheek, rapid re-growth after excision, new nodules enlarging daily. I deliberately burned the cheek, and most severely, with Roentgen rays. The patient has been well nearly ten years.

Another case, an osteo-sarcoma of the right iliac fossa, had been intensely and abundantly infected at exploratory operation. The man was cured by the infection, rapidly recovering health and weight after drainage of the immense accumulation of pus.

From this and other observations, I believe sarcoma may often yield to infection. On the other hand, my experience is that the presence of pus stimulates the growth of the carcinomas.

Finally, if cases of cancer could be seen, diagnosed and treated early, if every suspicious lesion or suggestive internal symptom were promptly brought to the attention of a trained diagnostician, we could abolish cancer with our present means of treatment. It should be superfluous to refer to the perniciousness of ignorant advice to leave such lesions alone.

Conclusion.

Successful treatment of cancer demands complete removal or destruction.

The danger part of a malignant growth is the periphery, and metastasis.

Gentle handling in diagnosis and treatment is essential to prevent increasing the extension of disease.

Proper caustics, radium and Roentgen rays are practically equal in epithelioma.

Various high potential electric procedures are of doubtful advantage.

Excision, en masse, is the only treatment in metastatic cases, and in cases where there is room for free operation.

Radiation should not supersede operation, but may render a case operable and may prevent recurrence if used immediately following excision.

Our present equipment is sufficient for the cure of all cancers coming early in the disease or while yet not extensive.

Advice to leave alone suspicious lesions or ignore doubtful symptoms is pernicious in its tendency to render cases incurable.

503-4 The Grand.

DISCUSSION ON THE PAPERS OF DRs. DAVIS AND HUTCHINS.

Dr. George M. Niles, Atlanta: I do not think that a paper such as Dr. Davis has presented, and representing such conscientious efforts, should go without discussion.

The one point which I want to bring out is illustrated by Dr. Davis' paper, and that is the importance in the South of team work in the diagnosis of obscure lesions as well as in treatment. I know the great growth and fame that has attended a certain hospital in the Northwest. The Mayos started out in a little village, and very soon people from all over the world came to see them. They accomplished much by their team work. They take a patient, they examine him very carefully, and they look at the disease from every angle, but we in the South, I am sorry to say, have not been as thorough along that line as we might have been. That omission is now being atoned to the best of our ability. You will find in every city of any size, and in some of the smaller cities, facilities for the diagnosis of cases from different standpoints—pathological, gastro-intestinal, dermatological, etc.—so that cases can be approached in a scientific way.

Another point which Dr. Davis made was that in some of these cases, especially the intestinal ones, those involving the abdominal cavity require a special technic, require considerable experience, and should have the services of one who is experienced and adept in that line of surgery. The abdominal cavity, with its various train of ills and infirmities, interests me, and naturally should interest one when he obtains his daily bread, so to speak, from working in that particular field.

I am always anxious when I advise a patient to be operated on to know that he is going to have the advantage of one who is experienced in abdominal surgery especially, and not one who is engaged in general surgery. Unless I know where a patient is going, I generally admonish him or her to the effect that it is better to bear those ills that we have than to fly to those that we know not of.

Dr. J. S. Derr, Atlanta: Whenever a lesion or pathological condition is deep-seated, surgery really is the thing. It should be excised as far as possible, and the post-operative treatment should be carried out with the aid of the Roentgen ray.

In the treatment of superficial growths, like epitheliomas, it is safe to say the X-Ray is the operation of selection, both from a cosmetic standpoint and from the thoroughness of the results. It acts in two ways by stimulating the growth of the healthy cells, and it acts directly on the pathological cells to destroy them. The scar tissue that is left is very slight in amount. The increased stimulation of healthy growth underneath fills up the ugly scar after the growth is completely excised.

In the treatment of malignant tumors of the breast, Dr. Herman Johnson, of England, has pointed out that metastases frequently take place in the ovaries of women who have not passed the menopause, and they should be subjected to X-Ray sterilization to prevent metastases in this direction.

Dr. King: Recently I had a case of carcinoma in which there was no possible hope of removing all of the diseased tissue, and it looked as if the X-Ray would have no beneficial results, but in this particular case it had the effect of relieving the pain very materially. This is one particular field in which the X-Ray is of great benefit, namely, to relieve pain.

Dr. A. H. Bunce, Atlanta: Both the papers of Drs. Davis and Hutchins are interesting to me. If any advance is going to be made in the treatment of cancer in the future we must make an early diagnosis.

I will pass these specimens around. The first case Dr. Davis had was a mixed cell sarcoma of the large intestine in which the diagnosis was made fairly early, and he did a complete resection of the intestine, removing the tumor, and there has been no recurrence so far.

The next case was one of adeno-carcinoma of the body of the uterus, situated on its posterior part, and an interesting point is, that in this case an early diagnosis was made.

A third case was one of adeno-carcinoma of the body of the uterus, and is of special interest because of the fact that while we had adeno-carcinoma, it resembled a squamous-celled carcinoma. Cullen, in his work on carcinoma of the uterus, reports only two such cases. The glands became greatly dilated, and the cells got their basement membrane until they resembled glandular epithelioma.

The mixed tumors of the parotid gland, which he reported had in their contents the

ectoderm and mesoderm. They contained ectodermic tissue. With this tumor cut through you can see areas of cartilaginous structure in it. This drawing represents the different kinds of cells.

Dr. MacCarty, of Rochester, Minnesota, has done more than any one else in carcinoma of the breast, and he says that we have first normal mammary gland, a normal gland with a single layer of epithelial cells. Later on these cells begin to multiply and we get a double layer or two rows of cells lining the gland. This we call a primary glandular hyperplasia. Later on if this condition continues we have secondary glandular hyperplasia or a filling of the gland tubules with the gland cells. If the condition still progresses we get carcinoma or a breaking down of the basement membrane by the cells of the gland. That is a point on which the diagnosis is based in those conditions. The Mayos advocate that the gland should be removed, although the operation is not as radical as for carcinoma. If you get a secondary gland hyperplasia you are justified in removing the mammary gland.

The paper presented by Dr. Hutchins is very interesting from the fact that some of these cases have been diagnosed by a frozen section at the time of operation. They were not supposed to be malignant at the time the patient was anesthetized. Epitheliomata and mammary gland tumors and carcinomas of the uterus, whether they be adeno-carcinomata of the body of the uterus or not, can be diagnosed with a fair degree of accuracy, as has been pointed out by Dr. Louis B. Wilson, of Rochester, Minnesota, in the examination of these specimens.

Dr. J. W. Palmer, Ailey: I would like Dr. Hutchins, in closing the discussion on his paper, to state more in detail about the non-surgical escharotic treatment. He spoke of non-surgical treatment and of using caustic potash. He did not say whether he ever used chloride of zinc or arsenic. I believe it is claimed that caustic potash or chloride of zinc attacks the healthy and pathologic tissue alike. I believe in the use of Bougard's paste, or in the use of chloride of zinc and other arsenious paste. It is claimed that this paste generally or ordinarily has an elective action for morbid or pathological tissue and generally spares healthy tissue. I have used it myself in general practice, that is, the arsenious paste, using anywhere from one-third

to two-thirds of arsenious acid, the remainder consisting of powder of acacia, and making that preparation with a saturated solution of cocaine for skin cancers. I apply that and let it remain from twenty-four to thirty-six hours, and after that the slough is removed. I use the same kind of healing ointment.

I believe Dr. Hutchins stated that these cancers are never permanently cured, and in ten or fifteen years may return, but with Bougard's paste they remain cured for ten or fifteen years.

I would like to ask the doctor, in closing, to tell us why he does not use arsenious acid paste.

Dr. Hutchins (closing): Regarding the X-Ray treatment of malignant growths, it is my belief you have to select the treatment like you do in other cases. There are cases absolutely suited for the X-Ray if the patient has the time and money, and there are other cases that are not suited to it. I think the average case can be cured by X-Ray, and it can be cured by caustic potash. That is cheap and old-fashioned.

As regards the cosmetic effect or appearance of the scar, if you apply an escharotic or a caustic to the epithelium you leave an eschar there, and if you let it go you will get a worse scar than you will with the X-Ray. If you apply the proper after treatment, you can get as nice looking a scar as you can with the X-Ray.

If you will pardon my saying so I was the first man to use the X-Ray for treatment in these cases, and as a result I have had considerable experience with it. Now, sometimes you heal over these epitheliomas with the X-Ray. You leave some cells and later you have a recurrence. That may happen a dozen times before you get the patient in proper shape, whether you use massive heavy doses or broken doses in your treatment.

As to the X-Ray stimulating the formation of granulations and later fibrous tissue, I agree with Dr. Derr that if you do not get enough of the X-Ray to go through this protective vascular surrounding tissues where the cells are infiltrated, in spite of the absorption of the ray by the other tissue, you give just enough to stimulate the growth like radium ore in the fields to make vegetables grow more rapidly.

As regards the use of escharotics, I will say that my notion is that practically all of

these secret cancer plasters and remedies are foisted upon the public in every county, and that there is some ignorant man who is practicing a secret treatment. The main ingredient in the great majority of these plasters is chloride of zinc. Some use Bougard's paste, which has quick-lime in it. The chloride of zinc acts on the tissues like an acid or caustic, caustic potash being the other extreme of an alkaline effect. Where you have a cancerous growth that Nature is trying to wall off and fight down this disease by throwing out fibrous tissue, you get a good effect from chloride of zinc, or from the acid nitrate of mercury, because it destroys tissue like the actual cautery. You can take tissue and drop it in liquified caustic potash and it is absorbed in a few minutes. Put that in an acid caustic and it is cooked. That is one proof of the selective action, and the reason I do not use arsenical paste, I have been able to get good results from the use of Marsden's paste, particularly as regards the relief of pain, when used from ten to twenty-four hours. There is nothing I know of except to put a patient profoundly under the influence of morphin, which will keep him from suffering before we get through with him. I do not know whether arsenic has a selective action or not. Part of its effect is due to the inflammatory reaction we get around the tissue, and that will kill out the cancer cells. Where you use caustic potash more thoroughly, you get so much quicker results, and if you have to use it long give the patient gas and oxygen.

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"THE UNCERTAINTY OF X-RAY SHADOWS OF THE LUNGS IN TUBERCULOSIS."*

By Arch Elkin, M.D., Lecturer on Physical Diagnosis, Atlanta Medical College.

The writer is keenly sensible of the fact that he is making himself a target for those actively engaged in X-Ray work, and whose enthusiasm is abundant in all directions, but he assumes the position of the bullseye with a firm belief, guided by some experience, that the X-Ray, in the matter of diagnosing pulmonary phthisis, is a useless and extravagant procedure.

The rapid development of the X-Ray, from the demonstration of mere bone trouble, to the very scientific advances in the gastro-intestinal tract, genito-urinary system and other valuable assistance it has given internist and surgeon alike, kindled the fire for an enthusiasm that has led many to believe there is no end to its virtue as an aid in diagnosis. Indeed, the very fact that the rays seldom mislead so far as the production of a shadow is concerned, is the basis upon which the superstructure of this argument is to be raised.

Unfortunately, the X-Ray, as all other valuable adjuncts, has had to bear the brunt of an overzealous following to the end that the limitations of its usefulness are being clearly shown and recognized. It is only a natural result, however, that the X-Ray should suffer from abuse. The spectacular part it plays in many conditions, giving positive evidence where clinical findings are absent or misleading, explains to my mind why some have attempted to make it answer every question not found in the index of clinical and physical diagnostic signs.

Pulmonary tuberculosis, it seems, has been made the predominant factor in this misguided use. Whether this is on account of the great prevalence of the disease, or because there are few normal lungs, I do not know, but Roentgenologists have dimmed the horizon all about us with the positive diagnosis of early tuberculosis as shown on a plate, something I believe to be as impossible as the plate of a far-advanced case is extravagant.

We know, of course, that certain substances, foreign or physiological, will pro-

duce shadows on the sensitive plate when exposed to the rays, and depending on the direction of the rays and the anatomical situation we are able to interpret these shadows with benefit, but only when they convey to our minds the presence of some well-marked pathology, or at least the existence of conditions abnormal. In the interpretation of any plate we must be guided first by the anatomy of the part, and, second, by relative conditions, the latter a matter of experience in reading plates, so that the skilled eye in the interpretation of a plate does not, or should not, interpret the so-called relative conditions as abnormal, or more strictly speaking here, pathological, for we must differentiate between the relative abnormal condition and the active pathological one.

The question, then, is of reading plates of the lungs as compared with those of other situations. In nearly all instances where the X-Ray is of definite value, the picture it presents is conclusive. In determining the position of bone fragments, or as whether a fracture really exists, the information is definite and clear cut. The injected ureter or the kidney stone furnish evidence through their shadows that are almost unmistakable. The bismuth meal may be traced through its various windings with accuracy and even the three months pregnancy is said to cast the shadow of coming events, but fibrous tissue infiltrated into a lung casts the same shadow yesterday, today and forever, and the problem of determining the difference between the healed lesion of small tubercular processes and those of the active type furnishes the stumbling block to accuracy in saying with which condition we are dealing. There is probably not an adult lung in this state that has not some fibrous tissue scattered somewhere through its structure, the result of some form of inflammation. This tissue, whether in minute quantities, and regardless of age, casts the same shadow so far as density is concerned, as the consolidation of an entire lobe, during active process or years later. How, then, is the X-Ray specialist, by reading a plate, to state what produced these small shadows scattered throughout the lung? I venture the assertion that every one within my hearing has enough fibrous tissue in his lungs to warrant a diagnosis of some trouble, simply from the interpretation of the plate, whether he recalls any previous pulmonitis or not.

The presence of this fibrous tissue and its

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prevalence, is the relative abnormality of which I have just spoken, and I believe the value of its consideration has been overlooked by those who believe they can diagnose incipient phthisis from a plate. I do not wish to be misunderstood regarding the early diagnosis of this condition, and I trust my position will not be taken to mean that I would criticize any valuable addition to our knowledge of diagnosis, but I do desire to criticize most emphatically this particular procedure.

The question of relying upon or following as a routine, the making of plates as corroborative evidence in diagnosis, is, I believe, an unwarranted expense to the patient. When the physical signs are few and not conclusive, the X-Ray will be of no service, because the lung will present, in all probability, the same picture it would have before any trouble was present. On the other hand, if the physical signs are present to a sufficient degree to give definite shadows, then we do not need the X-Ray for a diagnosis. Physical signs that persist, with or without the presence of symptoms, for a long period of time and which can not be accounted for in any other way, mean tuberculosis in the vast majority of cases any way, and the examiner who pays close enough attention to these signs will not need the help the X-Ray can give him.

The main obstacle in the way of diagnosing the early cases of tuberculosis now is the lack of attention paid to the obscure physical signs, and any departure from physical examination, which may be misleading, is apt to get us into the bad custom of neglecting the most important means we have.

There is one possible exception to the statements I have made. Central lesions are so often masked by the healthy structure about them, that it is very difficult to elicit physical signs and in this type of case, should we suspect any pulmonary lesion, the X-Ray probably would be of some benefit. However, if we were fortunate enough to anticipate these central lesions, had them X-Rayed and found a definite shadow, in the absence of physical signs, we would still be in the dark as to the nature of the trouble. These cases are comparatively rare, and hemorrhage generally brings them to the doctor, and since pulmonary hemorrhage is so insignificant, further procedure, it seems, is useless.

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DISCUSSION ON THE PAPER OF DR. ELKIN.

Dr. S. T. Harris, Atlanta: I have enjoyed the paper very much because the subject is one in which I am very much interested.

I am very sorry to say that I have to disagree with Dr. Elkin in his conclusion. Pardon a personal allusion, but for some years I have been actively engaged in this sort of work and have followed up my cases as well as the cases of others relative to the diagnostic value of the X-Ray. I would like to say that most of the authorities on this subject agree that the X-Ray will give you most positive findings, even to the point of showing tubercles which are practically military. These findings have been followed by autopsy work. There are a great many series of cases where cadavers have been X-Rayed and the lungs have been taken out and have been compared, and it has been found to absolutely coincide with my own work. I could not do my work without the use of the X-Ray, and with the use of the stethoscope in limiting and telling me the extent of the lesions and their locality and the condition of the tuberculous process. It is very true you have to have a skilled interpreter of the X-Ray plate. The shadow of fibers differs from the active tubercle the same as a calcified condition would differ from a condition of fibrosis. In a great many cases you find you can diagnose tuberculosis before you can positively get tubercle bacilli with the microscope or before you find many physical findings. It is true, you will find evidence of tuberculosis in a great many people who are apparently well and who are well, and as we all know now that many of the people who have had tuberculosis have gotten well and remained well. But with reference to the fibrous lesion, when you know how to interpret the plate it is different from the findings you find in active tuberculous lesions from a healed condition.

The condition of cavities and the condition of the pleura is also shown by the X-Ray, and in doing operative work on the lungs you can see what the condition is you have. If you have a pneumothorax, for instance, you can tell what condition the pneumothorax is in, and the X-Ray will show the bronchial glands and the condition of them and whether you have fibrosis or calcification, and all things considered I can not but say that the X-Ray is one of the most valuable aids we have in

diagnosis and also in the prognosis of pulmonary tuberculosis. I look upon the X-Ray as being a positive aid in diagnosis. In internal conditions it is an easy thing to say so and so is present, and so and so is not present, but by proper use of the X-Ray you have something to show.

As I said in the beginning, this is not a matter of theory, but autopsy work has shown in hundreds of cases that the X-Ray findings are absolute.

Dr. L. C. Allen, Hoschton: I would like to ask a question and to yield a part of my time to Dr. Harris to answer it and Dr. Elkin to answer it.

Suppose you have a case of suspected empyema of the pleura or abscess of the lung; suppose you have a case in which you are in doubt, but you think that there is a localized empyema or a lung abscess, and you make a puncture with the hypodermic needle and fail to localize it, what will the X-Ray reveal in a case of that sort and how much benefit is it?

Dr. E. C. Thrash, Atlanta: We have few better diagnostic aids than the X-Ray, but I do think its field is not in the lung when we consider it as being valuable as a diagnostic aid if we figure upon tuberculosis of the lungs, pure and simple. Tuberculosis must be judged by the clinical aspect of the case always. In view of the fact that most of us have tuberculosis, just simply because we find shadows does not mean that we have an active condition by any means. I must admit myself that I interpret X-Ray shadows of the lungs very poorly, and I have gone so far astray in my attempts to do it that I do not consider my judgment of much value in interpreting them. I have seen cases where the lung from the X-Ray would appear to be shadows, large glands or bronchial tubes or fibrous tissue or exudates, or what not, and I would let it stand that way. I was no better off after seeing them than before. If we have a condition of the lung where there are absolutely no clinical symptoms, and the man is apparently, and so far as he knows well, and the doctor finds he is well, we do not need to worry about such a case.

It is true that the laboratory and the X-Ray have their fields of usefulness in connection with this work. Let us take, for instance, abscesses, effusions, and consolidations. In these conditions the X-Ray is valuable, but physical examination will reveal

these conditions. We must not go too far afield in following up what the X-Ray shows in examining lungs.

I had an instance where an X-Ray picture was shown to me to interpret, and I went ahead and examined the man and found a deposit in this area and this, and the man said to me, "That is my lung." I thought it was a tuberculous lung. So, gentlemen, I assure you half of us would show shadows, but we have not clinical tuberculosis. We have probably an old lesion or some scar from pneumonia or any inflammatory process. It may have been a congenital condition. It may be due to some enlarged glands there.

We are not as good clinicians as we should be, and the more I have applied laboratory work to the diagnosis of tuberculosis the more I become convinced that I have got to be a clinician in order to make a correct diagnosis and catch the patient's correct aspect of his case, and what his status is in relation to the disease. If we take the X-Ray for its work, use it with out clinical work and with our physical examination and with the symptoms of the patient, taking everything into consideration, it is of value just as an examination of the sputum is, but it is not independent of the physical examination and the clinical aspects of the case. I know of nothing so valuable as the clinical aspects from a systematic standpoint. The symptoms of a patient mean more than everything else from my experience in working with tuberculosis.

You may take a case where the patient is running a temperature right along; he will be expectorating tubercle bacilli in the sputum; physical examination will show but little disturbance; he may have an ulcerated condition where you get normal breath sounds. If you put that patient out of doors, care for him, relieve him of the anxiety which is beneficent, and get him in a better physical condition, you will find he may not have any temperature. You can make a physical examination and get dullness all over that area. That dullness is beneficent. He has cellular deposits checking the progress of the disease; the physical signs are much more pronounced than earlier; the X-Ray shadows are deeper, and yet the patient is better. He is arresting his disease. These physical signs will remain until the death of the patient, and the X-Ray will show these shadows.

Dr. J. S. Derr, Atlanta: I have listened very attentively to Dr. Elkin's paper regard-

ing the value of the X-Ray in tuberculosis, and I wish to go on record as saying that I think his statements are too sweeping and to a certain extent entirely unjustified in the light of what has been done in this disease with the X-Ray. I say this based not only on my own experience, but on the experience of a great number of other men who have had vastly more experience than I have.

In 1910, at the Johns Hopkins Hospital, Dr. Dunham, now of Cincinnati, gave up eight months of his work to the practice and study of tuberculosis in the dispensary by stereoscopic Roentgenograms. These cases were referred to him by the clinicians in the dispensary with no information given to him except the age of the patient. He made his examination carefully, taking into consideration all the stereoscopic plates, and at the end of eight months he reported his results. If I remember rightly there were ninety-six cases examined, and out of this number of cases the conclusions drawn by Dr. Dunham from the X-Ray plates tallied exactly with the clinical findings of the doctors. In five cases the difference in the diagnosis was only partial, and in one in which there was complete disagreement, the results shown were in favor of the X-Ray, although no tubercle bacilli were found in the sputum.

Dr. Dunham has been a pioneer in this work. He invented a complete terminology for that which he saw with the stereoscopic pictures of the lungs.

As Dr. Thrash has said, all of us may show scar tissue in our lungs, but that does not necessarily mean tuberculosis. The interpretation of these shadows is what counts. Definite classification of large glands at the hilus is what produces trouble. Dr. Dunham was the first man to work out scientifically the significance of the hilus shadow and showed what was important work in these cases.

I wish to say that in The Journal of the American Medical Association there have appeared numerous splendid articles on the diagnosis of tuberculosis by the X-Ray. Dr. Mace, of San Francisco, in February, 1914, reported a number of cases of tuberculous diaphragmatic pleurisy, diagnosed as gastric ulcer, and the findings showing adhesions and retraction of the diaphragm and calcified tuberculosis in the lungs, and many of these cases afterwards were confirmed by the clinical evidence when the patient was put on gastric treatment.

Dr. H. McHatton, Macon: I am very glad, indeed, to have had the pleasure of hearing this paper because it is of immense value to us. We were taught that a man's capacity for diagnosis depended upon his ability to group symptoms. We have very few pathognomic symptoms in any disease, and I am very much afraid with the expected help from the laboratory work we have been expecting a great many years, we have gone beyond its value. We are losing the clinical idea and depending upon laboratory work. We find that we have very few pathognomic laboratory findings now because they are questionable in a great many cases. They are going to be of immense value to us in grouping them in connection with other symptoms and with physical findings, but our great trouble is that we are abandoning our attention which we should pay to clinical work. We do not have the clinicians that we used to have. We expected when we got the laboratory work we would send in a specimen and get a return that was absolute. We did not get it. There are just as few absolute returns from the laboratory as there are from one special symptom in clinical work. We are not getting even in our books the clinical type of work we used to get. We do not get such description of disease today as is given in the work of J. Lewis Smith on Diseases of Children. We are prone to go after new gods.

A short time ago it was salvarsan, pure and simple. Here is a case of syphilis, a dose of salvarsan is given, and the man is well. We have been through that hundreds of times. You give a series of doses of salvarsan to a syphilitic patient and go back to the mixed treatment for a period of years.

In tuberculosis we recognize that the majority of us have been tuberculous at one time or another. The majority of cases of tuberculosis get well without any treatment, and a large number of cases are never diagnosed. We all recognize that the early diagnosis of tuberculosis is the most valuable thing in the treatment of the entire disease. I said today, and I am absolutely certain about it, that a man could make an early diagnosis of tuberculosis better and more positive from his continuous clinical work if he has the ability to do it than from anything he can find in the laboratory. (Applause.)

Dr. George M. Niles, Atlanta: Dr. Elkin

tients who dread a general anaesthetic to such a degree that they refuse an operation that may be most necessary, and which they will submit to in relief of this fear.

The disadvantages are the possible dangers of the anaesthetic and when injected the inability to control the dose, the uncertainty of the duration of the anaesthesia and an incomplete or imperfect anaesthesia may occur. The consciousness of the patient may be undesirable, and may be a disadvantage if they are very nervous and excitable. There is a possibility of injury to the spinal cord and nerve roots.

Mortality.—The reports are so variable that the mortality rate is unknown. They range from 1 to 17,847 (Tomachewski) to 1 to 200 (Hoehmier).

These records include earlier cases when cocaine and the undeveloped technic was employed, including also high injections of the anaesthetic in which the mortality is markedly increased.

The following 927 cases were taken from the records of Saint Thomas Hospital, Panama, during my two years as resident surgeon at that institution.

General Surgery.

Operations.	Incomplete or imperfect anaesthesia finished under ether.	
Ventral hernia ..	8	1
Umbilical hernia ..	3	1
Inguinal hernia ..	97	4
Double inguinal hernia.....	8	2
Strangulated inguinal hernia.....	6	0
Strangulated inguinal hernia with..	1	0
Resection of gut ..	0	1
Ventral and inguinal hernia.....	1	1
Appendectomy ..	58	7
Fracture femur (open treatment)....	9	2
Frac're femur (application of cast) ..	1	0
Fracture tibia (open treatment)....	6	0
Fracture patella (open treatment)...	1	0
Resection head femur.....	1	0
Osteotomy tibia ..	14	0
Amputation of leg.....	3	0
Amputation of foot.....	1	0
Amputation of toes.....	8	0
Nephropexy ..	2	1
Cholecystotomy ..	3	1
Cholecystomy and Appendectomy....	1	0
Exploratory laparotomy ..	7	0
Acute intestinal obstruction.....	4	0
Splenectomy ..	1	0
Gunshot wound of abdomen.....	3	2
General peritonitis ..	3	0
Cyst. of the uracus.....	1	0
Excision abdominal fistula.....	4	1
Hemorrhoids ..	43	1
Abscess, perineal region, thigh and leg ..	29	1
Cellulitis of the leg.....	6	1*
Ingrowing toe nails ..	2	1*

Skin graft for ulcer of leg.....	12	0
Perineal lipoma ..	1	0
Stricture of rectum ..	6	0
Excision of Varicose veins.....	1	0
Suppurative arthritis knee.....	2	0
	353	27

7.5 Incomplete or imperfect anaesthesia.
*No anaesthesia whatsoever.
*Finished under local.

Gynecology.
Abdominal and Combined Operations.

	Incomplete or imperfect anaesthesia finished under ether.	
Hysterectomy for Carcinoma of cervix ..	4	2
Hysterectomy for pelvic inflammatory disease ..	23	3
Hysterectomy for fibroid.....	24	6
Hysterectomy for prolapse.....	2	0
Enucleation of fibroid.....	1	0
Unilateral salpingectomy or salpingo-oophorectomy ..	47	6
Bilateral salpingectomy or S. oophorectomy ..	43	6
Bilateral salpingectomy and appendectomy ..	10	2
Unilateral salpingectomy and appendectomy ..	21	6
Unilateral salpingectomy and herniotomy ..	2	0
D. C. suspension of uterus.....	12	1
D. C. suspension of uterus and appendectomy ..	12	1
D. C. suspension and amputation of cervix ..	6	3
D. C. suspension and anterior colporrhaphy ..	1	1
	208	37

About 18% incomplete or imperfect anaesthesia.

Vaginal Operations.

Vaginal hysterectomy for prolapse ..	2	0
Vaginal hysterectomy for carcinoma cervix ..	1	0
Vaginal hysterectomy for inversion of uterus ..	1	1
Perineorrhaphy ..	6	0
D. & C. perineorrhaphy ..	9	0
Dilation of curettage ..	43	0
Pelvic puncture ..	4	0
Repair vesico vaginal fistula.....	1	0
Cauterization of cervix.....	1	0
	70	1

About 1.4% incomplete or imperfect anaesthesia.

Genito-Urinary Surgery.

	Incomplete or imperfect anaesthesia finished under ether.	
Hydrocele ..	37	0
Circumcisions ..	101	0
Internal Urethrotomy ..	29	0
External Urethrotomy ..	31	0
Inguinal adenectomy ..	39	0
Hydrocele and Hemorrhoids.....	2	0
Epidemotomy ..	3	0
Orchidectomy ..	11	0
Orchidectomy and amp. one-half scrotum ..	1	1

Postatotomy (perineal)	3	0
Repair lacerated scrotum	1	0
Cystotomy	1	0
Amputation penis	2	0
	261	1

Less than 4% imperfect or incomplete anaesthesia.
 Total number of operations.....927
 Incomplete or imperfect anaesthesia finished
 under ether 66
 7.1%—

**Operations Below the Plane of the Pubis, Including
 Also the Region of the Groin.**

Operations.	Incomplete or imperfect anaesthesia finished under ether...	
General surgery	146	6
Vaginal	79	1
Genito-Urinary	261	1
	477	8

1.6% incomplete or imperfect anaesthesia.

**Table of Ages at Sixteen and Below and Fifty and
 Over in Which 5 to 8 Cgms. of Stovaine
 Was Used.**

Sixteen and Below.		Fifty and Over.	
No.	Age.	No.	Age.
1	*6	7	50
1	8	2	51
1	10	2	52
1	12	1	53
3	13	1	54
5	14	1	55
2	15	2	56
5	16	2	58
—	—	5	60
19		4	61
		2	66
		4	68
		4	72
		1	78
		1	81
		—	—
		29	—

In the above tables Stovaine was used exclusively, given in solutions of heavier specific gravity and administered in the horizontal position. In the general surgical and Gynecological operations above the plane of the pubis, the percentage of incomplete and imperfect anaesthesia was higher, being 7.5% and 18%, respectively. This is accounted for by the longer time required for the operations and to be especially conservative in its use, rarely more than 8 cgms of the drug was used, the horizontal position employed and the injection usually made in the lumbar region—occasionally in the lower dorsal, between the 10-11 and 11-12 vertebrae.

In the genito-urinary, vaginal operations and general surgical operations below the plane of the pubis, the percentage of incomplete and imperfect anaesthesia is very low, with rarely any toxic symptoms. There were

no deaths which in any way could be associated with the anaesthetic. Occasionally the patient would have some nausea and vomiting, or respiratory distress, and be given a whiff or two of ether, or a little strychnine and atropine, and the symptoms would pass off in a few minutes. If the distress was marked, artificial respiration for a few minutes was done. There were no cases of serious respiratory embarrassment.

Conclusion.

Spinal anaesthesia has a substantial place in surgery. It is a method of election in properly selected cases. It is an ideal method of anoci association easily and quickly employed. It is an ideal anaesthetic for nearly all operations below the plane of the pubis and the region of groin, with about 99% perfect results, requiring a minimum dose of the drug, and rarely any toxic symptoms. Stovaine is the most satisfactory and generally used drug, best put up in sterile ampules by some reliable drug house. The horizontal position and lumbar region for injection are the safest and most satisfactory.

The injection should be made about the nerve roots to the field of operation. It should be injected slowly after mixing with 1-2 C.C. of spinal fluid, and properly regulated by raising and lowering the head of the table. The dangers of this third method are about equal to those of ether in low injection or greater in high. It has its indications, contra-indications, its advantages and disadvantages, and should only be employed when these are known and the anatomical, physiological and mechanical principles of the method understood.

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has built up a very elegant man of straw and has proceeded to demolish it to the queen's taste. He could have gotten up and written and read just as good a paper entitled "The Uncertainty of Percussion in the Diagnosis of Tuberculosis," or he could have written a paper on "The Uncertainty of the Temperature in the Diagnosis of Tuberculosis," and then he could have demolished it with just as much ability and ease and elegance as he did this. In other words, he spoke about the interpretation of shadows. A man has got to look beyond shadows. He must recognize the shadow and see what it means. He has got to be different from the man described by the English poet in regard to the primrose, who said that a primrose was to him a primrose and nothing more. There must be something more than a shadow, and gentlemen the whole crux lies in the interpretation of the shadow or shadows, and, furthermore, it is necessary sometimes to keep at these shadows and look at them from different angles.

I was unable in the time allotted me last night to mention the great necessity of taking a number of Roentgenograms and augmenting them with intelligent fluoroscopic examination. Suppose a photographer wanted to get an expression of a certain face, a certain smile, or look, he might not get it until he had tried a dozen times. Sometimes a series or one-half or a dozen plates of a certain condition are necessary. Some shadows I interpret rightly; others I get wrong. These shadows are shifty. The trouble is not in the shadows themselves, for when we get them they mean something. The trouble lies in our own interpretation of them. We are approaching them from a new angle. We do not know as much about interpretation as we should. We are going to learn more about it. I have an earnest interest in the patient, and I do not minimize the value and necessity of all other forms of clinical examination. A man affected with tuberculosis does not have a square deal unless every form of examination clinically available is given him; but to say it is unnecessary to submit to the expense and trouble, I think is putting it too strongly, as Dr. Elkin did. It is all right to get the physical signs and all other signs, but if we want to clinch the diagnosis, it is also a good idea, if possible and practicable, to have the patient undergo a fluoroscopic examination which will show adhesions, if they exist, the

condition of the diaphragm, etc. All these things should be studied carefully and understandingly by some one who is experienced in the work. You take a man who is not experienced in physical examination and it means to him very little. His percussion sounds amount to nothing. The same way with auscultation. What he hears tells him nothing. A man who is unaccustomed to reading Roentgenograms of the lung may entertain views which are not of any value.

If we approach this thing in a scientific way, use the laboratory as an aid and the X-Ray as an aid, we will be more likely to make a diagnosis and have faith in it, as did St. Paul on Mars Hill when he exclaimed, "I know the reason for the faith that is in me."

Dr. Elkin (closing): In regard to the doctor's question, I do not think there is any doubt but what the X-Ray would be of definite value in helping to locate the condition. My paper, however, was purely on the early cases of tuberculosis; I did not have to do with that particular condition.

I may have misunderstood Dr. Harris, but I understood him to say that he depended upon X-Ray shadows to locate for him the lesion rather than depending upon the physical examination. That is what I understood him to say. If he said that I am greatly surprised, that a man of varied experience with physical examination would depend upon the X-Ray to help him to locate his lesion simply from the shadow. Dr. Niles and Dr. Derr have admitted that in practically all people, or in the vast majority of people, there exists scar tissue or fibrous tissue in the lungs which will throw shadows. They say that the diagnosis must be made from the proper interpretation of these shadows. That is exactly what I wanted them to say.

Dr. Niles: I beg your pardon; I did not mention that at all.

Dr. Elkin: I did not mean to insinuate that I have not the utmost confidence in these gentlemen to do X-Ray work and do it thoroughly, but they have undertaken a job by which it is exceedingly difficult to differentiate shadows in the lungs, and I believe it can not be done. A shadow from fibrous tissue and a shadow from a number of other things in the lung are identical. A shadow thrown from fibrous tissue, so far as the density of that shadow is concerned, or so far as the density of the structure is concerned,

will be identical with a consolidation of the whole lobe in a case of pneumonia, and the X-Ray man must say this is a bronchus or an active lesion, or this is a healed lesion by looking at the plate and seeing this shadow. I may be wrong. They may be right. But I think they are wrong. They think I am wrong.

SPINAL ANAESTHESIA IN SURGERY, WITH A REPORT OF 927 CASES.*

By G. Y. Massenburg, M.D., Macon, Ga.

That spinal anaesthesia has a definite sphere of usefulness in surgery is unquestionable and its application is becoming more widely adopted since Stovaine, Novacaine and Tropicocaine have replaced the more toxic Cocaine. These drugs, with the more thorough understanding of the anatomical, physiological and mechanical factors relative to their use and most essential in its successful administration, are gradually overcoming the prejudice established when Cocaine and its improper administration brought on the condemnation with which this method of anaesthesia is looked on by some.

The following tables, including nine hundred and twenty-seven cases of spinal anaesthesia under Stovaine, will, in themselves, show the range of application and use of this method, and add somewhat to the accumulating statistics of spinal anaesthesia.

The Solution of the Drug and Its Preparation.—Stovaine, Novacaine and Tropicocaine are the drugs usually employed. The duration of Tropicocaine anaesthesia is shorter than either Novacaine or Stovaine; Novacaine giving anaesthesia of somewhat longer duration than Tropicocaine, and Stovaine the longest of the three. Stovaine has a more intense action on the motor nerves, therefore causes a more complete relaxation of the spineter muscles, the muscles of the abdomen and lower extremities, also somewhat more respiratory depression when the anaesthetic extends higher within the spinal canal, because of this action on the nerves to the respiratory muscles. The average doses of the drugs are from three to eight cgm's—the solution may be made up with the tablets just before use or may be bought in sterile ampules ready for use. They should

be of specific gravity, heavier or lighter than the cerebro-spinal fluid; that by raising or lowering the pelvis, a higher or lower anaesthesia may be secured. Solutions of higher specific gravity are usually obtained by the addition of glucose, or gum arabic in three to five per cent strength. Ten per cent alcohol is used to make solution of lower specific gravity. Other solutions are made up containing sodium chloride and adrenalin. Jonnesco adds strychnine, especially in his high injections to counteract the depressive effects of this anaesthetic on the respiratory center. The solutions of higher specific gravity are generally used, and the amount of the solution injected one to two C. C.

Preparation of the patient is as usual for any operation. They may frequently be allowed a light breakfast before operation and this often lessens the tendency to nausea which occasionally follows the injection. The disadvantage of this liberty is when ether is needed to finish an imperfect or incomplete anaesthesia. In long operations above the level of the pubis where the operation can not well be finished under local anaesthesia, the meal should be interdicted. In operations below this level, where there is but a very small percentage of failures, the meal may usually be allowed. The patients should receive about twenty minutes before operation 1-6 to 1-4 morphine combined with Atropine gr. 1-150, or scopolamine gr. 1-150 to relieve them as far as possible of any anxiety during the process of the operation. Some operators at times where the consciousness of the patient is undesirable give morphine or Scopolamine every twenty minutes, beginning about an hour before operation until narcosis is produced. This, however, is usually unnecessary and has quite a depressing action on the medullary centers.

Position of the patient for injection, are the sitting and horizontal positions. In either case an assistant stands before the patient with one hand beneath the knees and another over the neck. The patient is made to arch the back separating the spinous process to facilitate the introduction of the needle. Both of these positions have a definite effect upon the distribution of the anaesthetic. In the sitting position more cerebro-spinal fluid runs into the spinal canal; after the injection and the patient changed to the horizontal position, the fluid recedes and carries the anaesthetic higher into the canal. In

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

the horizontal position there is not the change in movement of the fluid and the anaesthetic is maintained in the region of injection. By elevation of the pelvis in solution of higher specific gravity the fluid gravitates to the dependent region and a higher anaesthesia is thus maintained. When high anaesthesia is desired, and the injection made in the lumbar region, the sitting position is used. The anaesthesia here desired is usually of the dorsal roots, and when in the horizontal position if the cervical and lumbar regions are elevated causing an arching downward of the dorsal region, the heavier anaesthetic gravitates to the arch and a better anaesthesia of this part results. There is also less danger of the heavy solution getting to the medulla than if the cervical region was not so elevated. The head and neck should always be elevated when solution of higher specific gravity are used.

The points of injection are between the spinous processes in the midline or about one to two centimeters to the side of the interspinous space of the midline. In the former the entrance of the canal is usually most easily accomplished. The latter in very stout individuals when the spinous process can not well be located, allow the point of the needle more movement in the location of the intervertebral space. In either case the needle is directed to the midline of the spinal canal.

The Selection of the Intervertebral Space.—The injection should usually be made in the lumbar region as the Conus Terminalis, the end of the spinal cord, is at the first lumbar vertebrae, and there is little danger of injury to the nerves of the cauda equina. The fourth lumbar spine is on the level with a line drawn through the highest point of the iliac crest. As it is desired to have the drug in its more concentrated state about the roots of the nerves to the field of operation, the third or fourth lumbar space is best for operations about the perinium and anus, the second for operations about the legs, and the first for operations about the lower abdomen and groin. For higher regions of the abdomen the injection may be made between the eleventh and twelfth space. The anatomy of the nerve root must, therefore, be known, for an anaesthetic given several spaces away from the desired region may result in an imperfect anaesthesia and be unworthily condemned.

The necessary apparatus consists of two syringes and two needles; the one syringe and needle for anaesthetising the skin. Very little pain is felt beyond this point. A platinum spinal needle, about eight to ten centimeters long, with a short point, that the lumen of the point will be entirely within the subarachnoid space when fluid is obtained, and that it will not extend deeply within the space. With a long point spinal fluid may be obtained with the lumen of the point partly introduced, and when the anaesthetic is injected some will escape without the dura and an imperfect anaesthesia result. The needle should have a well-fitting stylet for clearing way any occlusion. The syringe containing the anaesthetic should be all glass and well fitted to the spinal needle.

The Technic of the Injection.—With the patient in the desired position, the space and point of injection selected, and painted with Tr. of iodine, a small amount of a local anaesthetic is introduced to anaesthetize the skin. The spinal needle is then introduced, and passed directly forward in the direction of the center of the spinal canal. But very little or no pain is caused in the introduction. The needle is gently passed to a depth usually of about four to six centimeters when it will be felt to have punctured dura. When the stylet is withdrawn, fluid will usually immediately flow from the needle, or after introducing the needle to almost the desired depth the stylet is removed and the needle is pushed through the dura. The needle at times may be occluded by having picked up some tissue on its passage, or a small clot may have formed. These can be removed by reintroducing the stylet or by gentle aspiration with the syringe. Occasionally a little blood may first drop from the needle, due to a small vein on the posterior surface of the subarachnoid space, but is usually followed by clear fluid. Care should be exercised that the needle be not passed to the anterior surface avoiding possible injury to the cord, nerve roots and larger veins of that surface. The fluid obtained, the syringe containing the anaesthetic, previously prepared, is attached and about one to two cubic centimeters of spinal fluid allowed to flow into the syringe to be mixed with the drug, and the whole very slowly injected. Rapid injection causes rapid diffusion, the concentration lost, and an imperfect anaesthesia results—also, greater is the danger of toxic effects by its

more rapidly reaching respiratory center. In a slow introduction the greater the concentration about the nerve roots to the field of operation the better the anaesthesia.

Subjective Symptoms.—The patients immediately begin to feel the effect of the drug—numbness, tingling and heaviness of the feet and legs. This is usually all they will notice. There may be some epigastric discomfort and feeling of malaise, at times some nausea and vomiting, which pass off after a few minutes. When the anaesthetic has extended very high they may complain of some respiratory distress. The inhalation of a little ether or ammonia or the injection of a little strychnine and atropin for this condition will usually suffice. In cases where the respiratory muscles have been paralyzed artificial respiration will have to be done.

Objective Symptoms.—Pain sense is the first to disappear, followed by the loss of touch and muscle sense and motor paralysis. The anaesthesia is usually sufficient in five to fifteen minutes to begin operation. The average duration is forty-five minutes to one hour. There may be incontinence of bowels and bladder due to the paralysis of the spincter. The pulse may be slowed, remain regular, and a fall in the blood pressure occur, especially when the anaesthetic is a high one. The circulatory symptoms are combatted with strychnine and adrenalin, or the adrenal may be given in intravenous or subcutaneous infusion. The patients may have pallor of face and perspiration due to this lowering of the blood pressure.

The Post-Operative Phenomena.—The most usual, a slight rise of temperature in the first twenty-four to forty-eight hours, subsiding within that time. Headache, which may be only very slight, but at times may be quite severe and most intractable. The headache is supposed to be due to some deterioration of the drug. The usual remedies for headache will suffice, as aspirin and a purge. In the very obstinate cases more effective drugs, such as codine, may be employed. Hot packs may be used, or a spinal puncture may relieve a heightened intra-spinal pressure caused by irritation of the disintegrated drug and be of great relief. There may be a slight transient acetoneuria following, and occasionally some albuminuria.

An extremely rare complication may be paralysis, ocular or peripheral of the legs. The cases of ocular palsy is explained as the

cause of severe headache is explained. The peripheral paralysis to be the result of some local injury to the nerve roots within the canal.

Limitations and Indications.—Age seems to have no influence in the results of this method. The very young, from a few months to the very old, withstand the injection well, of course, barring other complications. In all operations below the plane of the pubis where they can not easily and satisfactorily be done under local anaesthesia, and in operations about the lower part of the abdomen, below the umbilicus it may safely be used, but never should the anaesthesia be given too high, depending on some ether or local anaesthetic, should the anaesthesia be imperfect or incomplete.

It is indicated in nephritic disease, in case of hypertention, in operations on cases from the street, in all cases of operation below the level of the pubis where there is the likelihood of much shock being produced.

Contra Indications.—It is contra indications in extremely nervous, hysterical and insane patients, and diseases of the central nervous system. In severe myocardial disease, in conditions of very low blood pressure, and while it is the ideal method in blocking nerve impulses in preventing shock, once shock is present this method increases the shock because of the effect of lowering the blood pressure.

In pulmonary conditions, where there is a marked reduction in breathing capacity as in large plural effusion, extensive empyemas, and very advanced cases of pulmonary tuberculosis. Also any infectious process about the point of injection contra indicates its use.

Advantages and Disadvantages.—The advantages of this method are that it is easily and quickly administered, little apparatus is required, it obviates the necessity of an anaesthetist, and at times when an anaesthetist can not be obtained, as in emergency operations in the country, and the patient can not be taken to a hospital, it is most invaluable. It is an ideal method of anoci association. It is not followed by the post operation distress, restlessness, nausea and vomiting occurring after ether anaesthesia. It absents the pulmonary irritation of ether, or possibly ether pneumonia. It has practically no irritating effect upon the kidneys. It causes a most complete muscular relaxation. In some pa-

tients who dread a general anaesthetic to such a degree that they refuse an operation that may be most necessary, and which they will submit to in relief of this fear.

The disadvantages are the possible dangers of the anaesthetic and when injected the inability to control the dose, the uncertainty of the duration of the anaesthesia and an incomplete or imperfect anaesthesia may occur. The consciousness of the patient may be undesirable, and may be a disadvantage if they are very nervous and excitable. There is a possibility of injury to the spinal cord and nerve roots.

Mortality.—The reports are so variable that the mortality rate is unknown. They range from 1 to 17,847 (Tomachewski) to 1 to 200 (Hochmier).

These records include earlier cases when cocaine and the undeveloped technique was employed, including also high injections of the anaesthetic in which the mortality is markedly increased.

The following 927 cases were taken from the records of Saint Thomas Hospital, Panama, during my two years as resident surgeon at that institution.

General Surgery.

Operations.	Incomplete or imperfect anaesthesia finished under ether.	
Ventral hernia	8	1
Umbilical hernia	3	1
Inguinal hernia	97	4
Double inguinal hernia.....	8	2
Strangulated inguinal hernia.....	6	0
Strangulated inguinal hernia with..	1	0
Resection of gut	0	1
Ventral and inguinal hernia.....	1	1
Appendectomy	58	7
Fracture femur (open treatment)....	9	2
Fracture femur (application of cast) 1	0	
Fracture tibia (open treatment)....	6	0
Fracture patella (open treatment)...	1	0
Resection head femur.....	1	0
Osteotomy tibia	14	0
Amputation of leg.....	3	0
Amputation of foot.....	1	0
Amputation of toes.....	8	0
Nephropexy	2	1
Cholecystotomy	3	1
Cholecystomy and Appendectomy....	1	0
Exploratory laparotomy	7	0
Acute intestinal obstruction.....	4	0
Splenectomy	1	0
Gunshot wound of abdomen.....	3	2
General peritonitis	3	0
Cyst, of the uraens.....	1	0
Excision abdominal fistula.....	4	1
Hemorrhoids	43	1
Abscess, perineal region, thigh and leg	29	1
Cellulitis of the leg.....	6	1*
Ingrowing toe nails	2	1*

Skin graft for ulcer of leg.....	12	0
Perineal lipoma	1	0
Stricture of rectum	6	0
Excision of Varicose veins.....	1	0
Suppurative arthritis knee.....	2	0
	353	27

7.5 Incomplete or imperfect anaesthesia.

*No anaesthesia whatsoever.

*Finished under local.

Gynecology.

Abdominal and Combined Operations.

	Incomplete or imperfect anaesthesia finished under ether.	
Hysterectomy for Carcinoma of cervix	4	2
Hysterectomy for pelvic inflammatory disease	23	3
Hysterectomy for fibroid.....	24	6
Hysterectomy for prolapse.....	2	0
Enucleation of fibroid.....	1	0
Unilateral salpingectomy or salpingo-oophorectomy	47	6
Bilateral salpingectomy or S. oophorectomy	43	6
Bilateral salpingectomy and appendectomy	10	2
Unilateral salpingectomy and appendectomy	21	6
Unilateral salpingectomy and herniotomy	2	0
D. C. suspension of uterus.....	12	1
D. C. suspension of uterus and appendectomy	12	1
D. C. suspension and amputation of cervix	6	3
D. C. suspension and anterior colporrhaphy	1	1
	208	37

About 18% incomplete or imperfect anaesthesia.

Vaginal Operations.

Vaginal hysterectomy for prolapse	2	0
Vaginal hysterectomy for carcinoma cervix	1	0
Vaginal hysterectomy for inversion of uterus	1	1
Perineorrhaphy	6	0
D. & C. perineorrhaphy	9	0
Dilation of curettage	43	0
Pelvic puncture	4	0
Repair vesico vaginal fistula.....	1	0
Cauterization of cervix.....	1	0
	70	1

About 1.4% incomplete or imperfect anaesthesia.

Genito-Urinary Surgery.

	Incomplete or imperfect anaesthesia finished under ether.	
Hydrocele	37	0
Circumcisions	101	0
Internal Urethrotomy	29	0
External Urethrotomy	31	0
Inguinal adenectomy	39	0
Hydrocele and Hemorrhoids.....	2	0
Epidemotomy	3	0
Orchidectomy	11	0
Orchidectomy and amp. one half scrotum	1	1

Postatotomy (perineal)	3	0
Repair lacerated scrotum	1	0
Cystotomy	1	0
Amputation penis	2	0
	261	1

Less than 4% imperfect or incomplete anaesthesia.
 Total number of operations.....927
 Incomplete or imperfect anaesthesia finished
 under ether 66
 7.1%—

Operations Below the Plane of the Pubis, Including Also the Region of the Groin.

Operations.	Incomplete or imperfect anaesthesia finished under ether...	
General surgery	146	6
Vaginal	79	1
Genito-Urinary	261	1
	477	8

1.6% incomplete or imperfect anaesthesia.

Table of Ages at Sixteen and Below and Fifty and Over in Which 5 to 8 Cgms. of Stovaine Was Used.

Sixteen and Below.		Fifty and Over.	
No.	Age.	No.	Age.
1	*6	7	50
1	8	2	51
1	10	2	52
1	12	1	53
3	13	1	54
5	14	1	55
2	15	2	56
5	16	2	58
—	—	5	60
9	—	4	61
		2	66
		4	68
		4	72
		1	78
		1	81
		—	—
		39	

In the above tables Stovaine was used exclusively, given in solutions of heavier specific gravity and administered in the horizontal position. In the general surgical and gynecological operations above the plane of the pubis, the percentage of incomplete and imperfect anaesthesia was higher, being 7.5% and 18%, respectively. This is accounted for by the longer time required for the operations and to be especially conservative in its use, rarely more than 8 cgms of the drug was used, the horizontal position employed and the injection usually made in the lumbar region—occasionally in the lower dorsal, between the 10-11 and 11-12 vertebrae.

In the genito-urinary, vaginal operations and general surgical operations below the plane of the pubis, the percentage of incomplete and imperfect anaesthesia is very low, with rarely any toxic symptoms. There were

no deaths which in any way could be associated with the anaesthetic. Occasionally the patient would have some nausea and vomiting, or respiratory distress, and be given a whiff or two of ether, or a little strychnine and atropine, and the symptoms would pass off in a few minutes. If the distress was marked, artificial respiration for a few minutes was done. There were no cases of serious respiratory embarrassment.

Conclusion.

Spinal anaesthesia has a substantial place in surgery. It is a method of election in properly selected cases. It is an ideal method of anoei association easily and quickly employed. It is an ideal anaesthetic for nearly all operations below the plane of the pubis and the region of groin, with about 99% perfect results, requiring a minimum dose of the drug, and rarely any toxic symptoms. Stovaine is the most satisfactory and generally used drug, best put up in sterile ampules by some reliable drug house. The horizontal position and lumbar region for injection are the safest and most satisfactory.

The injection should be made about the nerve roots to the field of operation. It should be injected slowly after mixing with 1-2 C.C. of spinal fluid, and properly regulated by raising and lowering the head of the table. The dangers of this third method are about equal to those of ether in low injection or greater in high. It has its indications, contra-indications, its advantages and disadvantages, and should only be employed when these are known and the anatomical, physiological and mechanical principles of the method understood.

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THE PROBABLE CAUSE AND LOGICAL TREATMENT OF EPILEPSY.*

By Julien C. Pate, M.D., Valdosta, Ga.

Some months ago, I began with Dr. Charles A. L. Reed, of Cincinnati, Ohio, the surgical treatment of mechanical origin due to such conditions, for example, as displacements, malformations, adhesions, angulations, plications, dilatations, atrophies, and various distortions of the intestines. The general conditions calling for operative correctiveness of the intestine were not so much the constipation itself as the constitutional states that were caused by the constipation. Or, going a step further back in the change of etiologic sequence, it became evident that the toxic state of the system, the word "toxic" being used in its original and broad sense, must have originated in the intestines either through (1) deleterious additions to the food before ingestion, or, (2), as the result of secondary chemical changes in the food after ingestion, or (3), as the consequence of bacterial activity in either the normal or adventitious flora of the intestinal tract, or, (4), as the result of the co-operation of any two or all three of these sources of possible toxic supply.

In the course of this early experience, I early encountered certain causes in which epilepsy occurred as a complication of constipation and of other and more usual constitutional states that were caused by constipation. We did not at first recognize it as having even a probable sequent relation to the conditions of the intestines which was demonstrably the cause of the constipation. It was, in fact, totally disregarded in such of those early cases as came to operation. The sequel, however, finally forced on me a recognition of three significant facts. The first was a fact well known to the medical profession, namely, that epileptics are very generally constipated, or, as I have found to be true all of them to be constipated. The second was that certain epileptics once permanently cured of their constipation ceased to have epilepsy, another fact in consonance with the general experience of the profession to the effect that laxatives are the best remedies with which to minimize both the frequency and the severity of epileptic attacks. The third and equally significant fact im-

pressed on me was that, while all epileptics are constipated, only relative few constipated persons are epileptic.

The explanations of these facts taken together, and of especially the third fact considered either in relation with the others or by itself, logically require the existence of another etiological factor, the presence of which would account for the existence of epilepsy under given conditions in one case and the absence of which would account for the absence of epilepsy under the same conditions in another case. In this connection the toxic factor that I had recognized to be present not only in all cases of chronic constipation of mechanical origin, but especially in all epileptics, assumed a new and more potential significance. It was apparent, however, that while the general principle of toxicity obtained there must be some definite or specific poison or toxin to account for the equally definite and specific phenomena presented in these cases.

This view was held in mind in the further development of my surgical management of the perfectly obvious lesion presented in all of these cases, namely, the mechanically interference with the normal activity of the bowel, the only lesion, by the way, which has been demonstrated in 100% of epileptics that have come under our observation. At first we treated all these cases with fixation and replacement of the colon by retroperitoneal implantation. All these cases were free from epilepsy for a period varying from seven months to more than three years. I was impressed first, that the whole difficulty had been in the colon, and, second, that the restoration of the fecal current had resulted in carrying off the poisons, whatever its character. We then found a patient of whose epilepsy we had taken no account, but, in whose case we had operated for intestinal stasis four months before, but in which the epilepsy had been reduced from grand mal to petit mal. In the light of this case it seems to me that, considering the gravity of the disease and the obvious fact that the colon was the seat of difficulty, the more logical procedure was to remove the colon. We then did colectomy in the next two cases, both of which had grand mal, with a satisfactory surgical recovery in both instances. In both cases there was a cessation of the epileptic attacks. In one there has been two slight attacks in the six months that have since elapsed.

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

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MEETING OF COUNCIL.

The regular meeting of the Council of the Association will be held at the Hotel Ansley, Atlanta, at noon, November 17, 1915. All members of the Council are urged to attend. plans will be discussed for the work of the coming year.

Owing to the Harvest Festival, at this time, low round trip rates may be obtained for this meeting. Ask for these tickets when you purchase your transportation.

ANNUAL MEETINGS.

As is his usual custom the State Secretary urges all county societies to hold their annual meetings during the month of December. This is the logical time for the election and installation of officers, so that they may begin with the new year. All dues for 1916 should be paid at that time, as the fiscal year ends with the calendar year, and dues are

payable in advance. Each county secretary will be provided with forms for making his returns to the State Association before the time of the December meeting of your county society, and if he does not request you to pay your dues at that time, you should report him to his society for neglect of duty.

For several years there has been a friendly rivalry between some of the county societies for the honor of being first to report to the State Association. Why not have your society enter this contest?

FOR YOUR CONSIDERATION.

One year ago the profession of Georgia was about as despondent as it was possible for an organization to be.

The doctor in the small town was, to use a slang expression, “up against it.” The price of our chief commodity was below the cost of production. The entire state felt the direful effects of the European War. The doctor was unable to collect his bills for work done during the year, and, in consequence, was often compelled to allow his bills for drugs, etc., to remain unpaid. Meetings of county medical societies were held, and financial conditions discussed. Rules regulating attendance on patients who were careless about the payment of accounts, were made. Resolutions of all kinds were adopted. Minutes of these meetings were published in the press, and from these published accounts the impression prevailed abroad that we were really in desperate straits, and, doubtless, in many instances, the impression was correct. As a result of a bunch of newspaper clippings the officers of the American Association wrote the editor making inquiry, if, in his opinion, it was necessary to assist financially the profession, of this state, or any individual members thereof. Your editor replied by thanking them for their generous offer, and assuring them of his individual appreciation, but likewise assuring them that we would manage in some way, and while he was sure the membership of the Association would be reduced, yet he felt that everything would come around satisfactorily. Our membership was somewhat reduced, but now with cotton bringing good prices there is no excuse for the doctor to cry “hard times,” and we want every old member to return to the fold and bring all the new ones possible. Likewise, when you hear some old professional grouch begin to “knock” the American Medical As-

sociation, or some one of the different varieties of fools that are still allowed to go about without a keeper, refer to it as a medical trust; kindly take him aside and pour this information into his ear. It will be easy to pour, for his breed of animals are known to have extraordinarily long ears.

ALABAMA OPTOMETRY BILL VETOED.

During its recent session, the Alabama legislature passed a law providing for a board of optometry examiners. When it went to Governor Henderson, the facts regarding the measure and its dangers to the public were placed before him, and in spite of considerable pressure he wisely refused to permit it to become a law. Usually the advocates of these measures are able to secure a considerable amount of political backing and influence. The indorsement of the state association, however secured or through whatever misunderstanding it may have occurred, only increased the difficulty of the governor's position. Probably most state executives under these circumstances would have felt fully justified in signing the bill. These facts only increase the appreciation of Governor Henderson's independence and courage in refusing to allow this measure to become a law.

It is true that too little time is given to the instruction of medical students on this subject, and that to become a competent oculist or ophthalmologist requires postgraduate instruction. These facts have all been taken advantage of in promoting the passage of optometry bills in the various states. But it does not follow that the only remedy or best remedy is the creation of a separate, independent board of "optometrists" and the legal recognition of a pseudoscientific sect, which, by its incompetent encroachment on the field of medical practice, will do quite as much, if not more, harm to the public than the unregulated spectacle-fitter.

A bill extending the powers of the medical examining board, authorizing it to examine, either directly or through an appropriately constituted examining committee, those desiring to fit glasses, to issue to them a proper license to do so and to prevent all unlicensed persons from preying on the public, would meet all the indications as far as public safety is concerned, and would avoid the evils and dangers of a separate board.

THE PROBABLE CAUSE AND LOGICAL TREATMENT OF EPILEPSY.

(Continued From Page 166.)

ed. The other patient, who had from one to four attacks daily, left the hospital at the end of three weeks without having had a seizure. She continued well, the bowels moved freely several times daily, she ate well and was up and about when, suddenly at the end of three weeks, she developed status epilepticus from which she died in a short time. A post-mortem revealed an acute dilatation of the duodenum as the only lesion. This was caused by a traction exerted by and through the **meso colon** from the weight of a **rather heavy** omentum that was left after colectomy. This taught me two important lessons, namely, first, what I had known before, that the ptotic condition of the meso colon, whether effected by the weight of a loaded colon or by the fat omentum, or both, could produce obstructive angulation, and, second, that the specific poison of epilepsy, whatever its character, was elaborated in the duodenum. Another lesion that we learned from these and other cases was that, although surgically successful colectomy, whether done on epileptics or non-epileptics, was an operation involving much traumatism and consequent surgical risk. Therefore, it seems practical to do this operation in two stages. First, do a ileosigmoidostomy, or short circuit, and later remove the colon. A good many of these cases got well without the second operation after they had been thoroughly alkalinized.

Up to date, we have had something like sixty cases and this rapid increasing experience has taught me an increasing familiarity with the clinical picture of epilepsy in all of its forms. The first thing in the way of generalization that impressed me was the complete and surprising absence of the hereditary factor in all the histories. I was unable to find any case of so-called traumatic epilepsy of the type usually implied by the term, namely, of injury to the head, although we found numerous cases in which a fall or strain or other injuries was the manifest cause of the splanchnoptosis present.

On the contrary, every phase of the disease seems to emphasize the existence of a poison of intestine origin. There were the hedetude and mental depression which always occurs when there is hyper-absorption of intestinal toxin or poison—the word "toxin" here used

in its new and restricted sense of a poison of bacterial origin. There was the vertigo often without, often with, an instant of unconsciousness, but still vertigo, very similar to what healthy persons experience when they are bilious, which is another word for torpidity and hyper-absorption. There were the convulsions not entirely unlike those of tetanus, of which toxic origin, or not entirely unlike those produced by strychnine poison. There was the dilatation of the pupils, not entirely unlike that which occurs in the advanced toxemias. There was the high blood tension like that which occurs in the known acute infections. There was the saliva not unlike the salivation in hydrophobia of known bacterial origin. There was the constant tendency to the formation of gas with a peculiarity, I should say distinctively, offensive odor. This gas-forming process was most marked near or at the time of the convulsion, when the odor seems to permeate all the secretions. There was the temperature vacillation, less in range, but still a vacillation, such as occurs in recognized septic states. In other words, epileptics have a low mean average of temperature—97 plus rather than 98 degrees.

To sum up our experience and conclusions, will say that all cases that made a surgical recovery were cured up to the present writing. The mechanical interference in the intestinal tract brought about absorption of toxic matter into the system which sets up an acidosis, which is proven by an examination of the saliva, which is always acid in these cases, who have not been taking alkalis, also an examination of the urine, which shows acetones high. This acidosis of tissues sets up a temporary dropsy of the brain neurones, which then become flooded, gives you your explosion. This very easily explains your Jacksonian epilepsy, as the cells which control the part under convulsion is dropsical. In other words, epilepsy is a convulsive toxemia.

We all know that the best treatment for epilepsy is purgation. The first thing to do in treating these cases is to first alkaline the patient as far as possible, and to do this I am injecting a small percentage of alkaline mixture into the veins every fourth or fifth day, as the case may demand. This procedure is continued for some time—from three to eight weeks, and altogether by symptoms. You will be surprised at some results that you will get with this preparatory treatment.

Your attacks will become lighter and, in some cases, are farther apart.

After your patient has passed this stage, then is the time to straighten up the intestinal tract so as to remove stasis. This is done, as I have explained above, by short circuit, subperitoneal implantation of transverse colon and may be colectomy—whichever the case demands. These cases are first put under the X-Ray, and you will readily see or find the mechanical interference, so you see you know what you are going to do before you open the abdomen.

The relief of the mechanical cause of the constipation with restoration of bowel function results in the cure of epilepsy.

In due season, I hope to lay the further details of my work before the profession. In the meanwhile, I shall be grateful for the views of all practitioners whose experience has given them distinct opinions about the nature and treatment of a disease which has baffled science throughout the ages and centuries.

Converse Building.

THE PREVENTIVE TREATMENT OF PELLAGRA BY INJECTIONS OF BAD MAIZE EXTRACTS.

**By H. F. Harris, M.D., Secretary State
Board of Health, Atlanta, Ga.**

To the Editor of The Journal of the Medical Association of Georgia, Augusta:

While there can be no doubt that rest, good and assimilable food, and change of climate are of the utmost importance both in preventing recurrences of acute pellagrous attacks, and in warding off the graver symptoms in patients who have only suffered from the milder forms of the disease, and while such measures will in all probability continue to be our sheet-anchor in the treatment of such cases, much interest attaches to certain results which have been recently obtained in the prevention of the classical pellagrous onsets by means of injections of extracts of bad maize.

As is well known, it was long ago discovered by Devoto, and his assistant Ascoli, that pellagrins exhibit a hypersensitivity to extracts of bad maize, and that the conclusions of these writers were fully confirmed by the later investigations of Volpino, Mariani, Bordoni, Alpago-Novello, Cesa-Bianchi, Rondoni, and others. Somewhat later it occurred to

Volpino that a state of resistance might be established by repeated injections of such extracts, and he, in conjunction with Bordoni, reported the results of his earlier investigations in the latter part of the year 1913. These observers began their work by repeatedly injecting rabbits intravenously with extracts of bad maize. Ten days after discontinuing this treatment some of the blood serum of these animals was mixed with solutions of what they called "pellagrogenina" of varying strengths, and the mixture administered subcutaneously to guinea pigs that had been sensitized to maize products, and it was found that the animals suffered no ill-effects as a result of the injections, and it was, therefore, felt that anti-toxic bodies were evidently contained in the serum used.

Following the foregoing experiments these investigators treated three patients in the fall of 1913 with injections of gradually increasing strengths of extracts of bad maize with what appeared to be excellent results, and they have just reported a continuation of the work along these lines which was done in 1914, and make mention of the fact that the well known pellagrologist, Camurri, has informed them by letter that he has also seen striking effects from the treatment.

Still more recently Finato and F. Novello have reported the results of the use of the extract in 14 cases, and have expressed themselves as having a high opinion of the efficacy of the treatment in many cases; in only 1 of the 14 persons treated was there even any doubt as to the beneficial effects secured.

Inasmuch as it takes some little time to carry out this plan of treatment, it is considered best for the patients to take it during the fall or winter.

In some instances the medicament has consisted only of concentrated solutions of extracts of bad maize, and, what seems better, in other cases "pellagrogenina" has been employed. Whatever solution of bad maize is used, the utmost care should be exerted in seeing that the solution is properly sterile; in some cases the investigators in testing for hypersensibility have sterilized the solutions by heat, but on the whole it would appear to be much better to filter the extracts through a Berkefeld or Chamberlin germ-proof filter, as only in this way would it be possible to preserve all of the component parts of the bad maize intact.

Gradually increasing strengths of the solutions are employed, the patient being care-

fully watched in order to avoid the occurrence of pronounced reactions, which, in case the solutions used are too strong, much resemble those obtained by tuberculin in patients with tuberculosis.

Ordinarily the injections are given every other day, and it requires about two months to complete the treatment, this being continued in gradually increasing doses until reactions no longer occur, even after the use of very strong solutions.

The results obtained by the well known pellagrologists whose names have already appeared in this letter are such as to warrant a thorough investigation of this method of treatment. While it is certainly impossible ever to remove the extensive pathologic alterations that are always present in pellagrins, there is no question that we may by proper measures ward off the acuter manifestations in many instances, and should it be found that this treatment is of any decided value, it would certainly be a godsend to the unfortunate victims of this disease.

In order that the matter may be tested as early as possible, I have made preparations to treat a limited number of patients, free of charge, during the coming fall and winter, and will be glad to hear from physicians who feel interested. In order that this work may be of real scientific value, it is highly important that most thorough and complete histories of all patients should be obtained, and that a record be kept of the symptoms produced, particularly in the earlier stages, by the injections. For this reason I would greatly prefer that patients desiring this treatment should come to Atlanta and stay for at least a time in the earliest stages of the treatment, after which they may, if they prefer, go home and get their family physician to continue the injections. In cases where this is out of the question, and where the medical attendant will agree to furnish all of the data desired, with the subsequent results, I will be glad to furnish the extract, in properly sterilized, sealed glass tubes, free of all cost. Under such circumstances, however, it will be necessary for the medical attendant to write or wire the result of each injection, as the dose has to be gauged accordingly.

I would be very glad to hear from any physician who has patients upon whom he would like to try this treatment.

H. F. HARRIS.

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(Journal American Medical Association, Dec. 19, 1914, p. 2182; May 1, 1915, p. 1471; Mulford Digest, May, 1915.)

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THE COUNTRY DOCTOR.*

J. R. Robins, M.D., Siloam.

Mr. President and Gentlemen:

It is with considerable diffidence, and no little embarrassment, that I bring this subject before you today; for, according to some of our advanced thinkers, I should have been relegated to "innocuous desuetude" some time ago. But I have, several years ago, safely passed the climacteric of Oslerism, and am, therefore, a chloroform immune. And it occurs to me that a man who for 30 years has poured drugs of which he says he knows very little, into human bodies about which he says he knows less, without faith in their efficacy, and collects his fees, is himself a fit subject to be promoted to join his ex-patients, and should be denied the benefits of an anaesthetic.

The life of a "Country Doctor" is comparatively of few days, and incomparably full of trouble. He is brought face to face with human nature in all its different phases. And he learns, as nowhere else in life, how to appreciate the exalted sublimity of true man-

hood and womanhood as exemplified in the patient, uncomplaining suffering of the hopeless and incurable—calmly awaiting the summons to cross the grand divide. And he learns that

"Some of the brightest hues of human character
Are rainbowed out in tears."

And that
"It is the fiery furnace of trial alone
Where are refined and spun out those golden threads
Of character, from which are woven the marriage robes of Heaven."

But lest he should be unduly impressed with the dignity and solemnity of his vocation, he is brought in contact with much of the ludicrous side of life.

He sees all the kaleidoscopic phases of the hypochondriac man—with a rabbit foot and a buck-eye in his pocket, and an Irish potato sewed up in the hem of his pants; and who is firmly convinced that he has a hookworm hooked on to his appendix, while a thousand pellagric microbes are finding rich pasture ground on his hands and feet.

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

He has to listen to all the chimerical phantasmagories of the hysterical woman, fresh from her sanatorium, where her expert specialist has relieved her of a dozen of her ovaries, but she still has a few more left all tangled up and wrestling with her uterine appendages, and is suffering from a thousand and one shifting aches and pains which nothing under heaven will relieve.

He occasionally meets up with the semi-demented paranoiac, who takes him up into the third heavens and shows him visions of the Elysian fields that would make anything that John saw on the Isle of Patmos look like a five cents moving picture show.

Then down to the opposite extreme of society, he is called on to diagnose and prescribe for the ignorant and superstitious negro with a forked snake in his stomach and a June bug in his heel.

The busy routine grind of the Country Doctor is not monotonous. He has his sweets; but, oh my! how they are tempered with the quintessence quinine and quassia! One day he has the exquisite pleasure of handing to the proud young husband his first bouncing baby boy; and after a few hours' rest is called up to partake of a glass of good old country peach-and-honey and a hot breakfast, and as the happy pa-pa follows him out to his car, thanks him for his skill and his kind attention to his loved ones, slips a \$25 or \$50 fee in his hand and blushing invites him to call around again in about two years. Ah! then, he goes on his way rejoicing, whistling "Johnnie Get Your Hair Cut Like Mine." But in a few days the moon changes; the tide ebbs; the wind blows from the east; screech-owls begin to sing, and there's trouble in the air. And his telephone bell sounds like a death knell as he is summoned to go 12 or 15 miles in the country, and the same distance from anywhere else, through mud, rain and darkness, and bucks up against a hard proposition in the shape of a 35-year-old primipara, with a two-inch pelvis, a central implanted placenta previa, with left shoulder presentation. No help in reach; no time to send for it if there was. He realizes that he must tread the wine-press alone—and tread fast. He must dance the solo though the music be ever so discordant. Nothing for it but to pull off his coat, roll up his sleeves (but, gentlemen, don't spit in your hands), back his ears, and go in for results. And as he fumes and frets, and toils and sweats, and prays for the rocks and the

mountains to fall on him and hide him from the face of four or five old ladies sitting around in the room, telling each other what wonderful things Doctor Smith did when Mrs. Jones had twins, each one winding up her little narrative like the paragraphs in the fifth chapter of Genesis, with "and she died." No whistling now; but while he works with head and hand, his heart beats time to the funeral dirge of

"Turn backward, turn backward, O Time,
in your flight,
And make me a child again, just for to-night."

And a girl child at that. He no longer wonders why old Job cursed the day he was born; he only regrets that the old gentleman didn't make it unanimous by cursing the day when everybody else was born.

But after everything is over and quieted down, and the corpses (for you know, gentlemen, we will sometimes have those inconvenient appendages to our work), are laid out in strict orthodox style, as he wends his way mournfully homeward, his heart depressed with the thought of that great cloud of sorrow that has settled down on that little cabin in the woods; a young life gone out in all the bloom and sweetness of young motherhood; the dearest ties that bind human hearts together forever sundered; a home wrecked; a heart broken; mother and child both dead; among the general wreck and ruin that surround him, his only consoling thought is, that by his most consummate skill and untiring efforts, he did manage to save the old man. And there's another scar on the old doctor's heart, more gray hairs cropping out on chin, and a little bald spot is planted on his head.

Another cause of trouble to the Country Doctor that I don't think obtains to such an extent among our city doctors, is the credulity and gullibility of his clientele. See him as he is called to see the only darling boy of a young husband and wife—and as he enters the room, he sees the child in the death throes of diphtheria; and he tells the man he can't do him any good. "Why, he will be dead in a few minutes; dying now," and hear the man say: "Why, surely, doctor, it can't be as bad as that. We thought it was a case of croup. Mrs. Jones came over, and she said it was croup, and she gave him catnip tea and lobelia, and said he would be

all right in 24 hours, but he wasn't. Mrs. Smith came and said Mrs. Jones didn't know what she was talking about; that it was spasmodic croup, and that onion juice was mighty good for that. And she gave him onion juice, and put hot cloths to his throat, and ice water to his feet, and put a poultice to his stomach and a mustard plaster to his back, and poured Sloan's Liniment in his ear. And she said 'if he wasn't well in 24 hours we would have to get a bottle of Cheney's Expectorant.' He still seemed to get no better, and we got a bottle of Cheney's Expectorant, but—." And while he was talking there was a little quiver of the eyelids, a little upturning of the eyes, and his poor little neglected spirit takes its flight up to that "Beautiful City of Gold" where Mrs. Smith and Mrs. Jones cease from troubling, and where those vile patent nostrum vendors never come. And there's another scar on the old doctor's heart, a better stand of gray hairs on his chin, and a larger skating rink on his head.

See him as he is called to some palatial residence to see a young society lady suffering from a "deep-seated cold," and as he enters the room finds the blinds closed, sash down, curtains drawn, and the keyhole of the door stopped up with paper to keep the poor girl from taking more cold," and as he notes the bright hectic spot on her cheek, the unnatural brilliancy of her eyes, the chalky whiteness of the teeth and the cornea, fingernails beginning to hook inward, and oh! that hollow cough that sounds like elods falling on coffins, and he knows the poor girl is doomed. After giving such a talk as none but a tactful doctor can give on hygiene, he consults with the father in the parlor. And he tells him that the "great white plague" has entered his home and claimed its victim—that his daughter is suffering with tuberculosis, and may live two months, possibly three—but that no doctor less powerful than the Great Physieian who practiced along the shores of Galilee can ever restore her to health. And hear him say, "Why, surely, doctor, you must be mistaken; it can't be as bad as that. Why, I know the very day she contracted that cold. The neighbors came in and said it was a deep-seated cold; that Bell's Pine Tar and Honey would soon knock it up. So we got a half gallon of Bell's Pine Tar and Honey, but it didn't do her any good. Then some one suggested that Chamberlain's Cough Syrup never was known to fail when given on the full of the

moon. And we got a lot of that stuff and gave it to her all over the moon. But it didn't do Janie any good. And I began to think I would have to call in a physician. But just then I saw where a celebrated doctor up North—where all great doctors are made—had discovered a new discovery. It was the newest discovery that had ever been discovered since discoveries were first discovered; and they called it 'Dr. King's New Discovery,' and you know, doctor, that will cure coughs and consumption, too, for it says so on the bottles, printed. Besides, here's a letter from a minister of the gospel, a preacher, who had the consumption 10 years and one bottle cured him. And here is another letter that came wrapped around the bottle from a prominent lady in Denver—a church lady. Why, she is high priestess and grand high-cockalorum of the Helle-ba-lu Missionary Society to the Hottentots. And she says that she had tuberculosis 14 years, and her brother took three bottles of it, and it cured her. It was warranted to be fresh, full strength, just off the vine, and to be a yard wide and all wool, and to rip, tear and cut, and guaranteed not to run down at the heel nor turn up at the toes. So we got a half gross of that, but it didn't do Janie any good, and I thought surely we would have to call in a physician, when I saw this in my church paper: 'My Dear Sister, Let Me Help You.' We thought we needed help, and I saw that it was an advertisement of another famous doctor, also from the North, a she, female, woman, lady doctor who had compounded the greatest compound that had ever been compounded, and they called it 'Mrs. Lydia Pinkham's Compound.' It also was warranted to be 40-horsepower, high-pressure, kick-up-behind, patent lever, cylinder escapement, lock-stitch, self-hammer, choke-bored, and hair-trigger, with all the necessary attachments, guaranteed to cure anything that ever afflicted a woman, from scald-head to ingrowing toenails, also corns and bunions, and was a specific for hairlip, cross-eyes, red hair and a bad conscience. And by sending \$3 extra Mrs. Pinkham would give her personal and particular advice through correspondence. (If any of you gentlemen has a patient who wishes to correspond with Mrs. Pinkham, I would advise them to write on asbestos, for she has been dead 14 years.) Then I saw in my church paper three large capital P's, which I thought meant peace, perfection,

purity, and plenty of it; but in reading further I saw that it meant 'Pink Pills for Pale People.' Then I knew that was what we wanted, and we procured a quart of them and Janie took about half of them, when her little poodle dog got among them and ate the balance of them, and the little son-of-a-gun has been coughing ever since."

And there's another scar on the old doctor's heart, a few more gray hairs on his chin, and a larger skating rink on his head. And he goes on his weary round quoting Burn's "man's inhumanity to man makes countless thousands mourn."

Notwithstanding all these disagreeable vicissitudes, the old Country Doctor loves his vocation, and is proud that he belongs to the order of the priesthood, though he be only permitted to serve in the outer porch of the temple. That temple, humanity's lighthouse, pointing out the shoals and breakers and quicksands, where so many human lives are wrecked and lost, and he confidently hopes it will continue to grow taller and broader as the years go by—sending out brighter and brighter flashes of knowledge on all subjects pertaining to hygiene, until the perfect physical man announces to the world that medical science has fulfilled its mission, and humanity's cycle is complete.

He may not have all the facilities for patient research necessary to the accomplishment of grand and startling results; yet he consoled by the thought that he who best performs his duty in his appointed sphere best serves his generation.

Despise not the day of small things. That fever-scorched Indian lying by that pool in the jungle of Peru, quenching his thirst with its bitter water, conferred as great a boon on humanity as ever emanated from a chemical laboratory. Wilbur Wright drew his first inspiration of the aeroplane from watching the efforts of a crippled butterfly. We know how insignificant appears the little twinkling star of the tenth magnitude, while the heavens are lighted up by incomparably brighter constellations. But astronomers tell us that it is not because the little star is so small or emits a less brilliant ray, but because of its greater distance from the observer. The dim star may be a burning sun, while the bright one is shining by reflected light alone.

We know how the mind and heart is filled with awe and grandeur, when gazing on some lofty mountain peak, forgetting that

the little pebbles at its base are only the units of the one component whole.

Poor, short-sighted humanity! How prone we are to strain our vision to the utmost horizon, if perchance we might gain a distant view of Beulah land, or inhale some of the sweet perfume that floats through Eden's bowers, when at the same time we recklessly trample beneath our feet some of God's rarest flowers. And if the old Country Doctor can not attain to the height of Parnassus and drink from that Pyrean spring that gushes from its summit, he at least is permitted to linger at its base and imbibe of its pure waters as they gurggle by.

THE DOCTOR AS THE FIRST AID IN THE DETECTION OF CRIME.*

C. W. Gould, M.D., Atlanta.

Last summer the body of a young man was found beside a railroad track. It was picked up and put in the hands of the undertaker, either because of the zeal of the undertaker or because grief made his friends oblivious to the importance of determining the cause and manner of his death, if possible before the body was interfered with.

It then developed that the boy had had words with the conductor of the train on which he was riding and had fallen or been pushed from the swiftly moving train and had been left to die beside the track.

A local physician decided that a fractured skull, which he found at the autopsy, was the cause of death. The conductor was arrested. The defense claimed that the young man must have been under the influence of alcohol, or that he had been poisoned and fallen.

The stomach and part of the colon came to my laboratory in a solution of formaldehyde. There were punctured holes in the heart, stomach and colon, made, no doubt, by the undertaker in the process of preparing the body for embalming. But at the distance I was from the site of the crime, all these facts made it impossible to discover or decide what had caused the death of the unfortunate young man, or to fasten responsibility on any one for the crime, if indeed, there was one committed!

Of course, the stomach coming in a solu-

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

tion of formaldehyde, made a chemical examination of its contents useless.

This ease is but one of many where the interference of unskilled and people untrained in the observance of physiological or pathological phenomena has done much to prevent the carrying out of proper procedures by the most accessible doctor.

If the local doctor had been called to the place where the body was found, even though he was perhaps not experienced in such things, he would have taken the precaution to make a good examination and justice would have been more certain to have been obtained.

The doctor is first and above all else, a preventor of disease, a preserver of life.

At first thought any other duty is repugnant to him. Why should he be concerned as to the commission of crime? Why should he care as to the guilt or innocence of a person accused of crime? How can he help in the determination, first, of the fact that a crime was committed? Second, the kind of a crime of the victim and criminal?

First, he is often the best thinker of a small community. Naturally he is looked upon as one of the leaders. Then, too, he may be the only one in the neighborhood who is a trained observer of the different conditions of the human body.

Therefore, if a crime is committed endangering the life or physical well-being of a member of the community, the physician should be, and often is, the first one called to the scene.

Dr. Conan Doyle, in watching his professor of diagnosis deduce from the signs and symptoms of the patients of the clinic, conceived and evolved his popular character, Sherlock Holmes.

A famous detective has said that every criminal leaves large tracks behind him if one knows how to find them.

If the police would call in a man capable of observing things which are unintelligible to them, crimes might often be solved more surely and with less expense to the taxpayers.

Every doctor is better trained than the layman in noticing and giving proper weight to physical signs of the human.

When called to see an unconscious dead person, the first thing necessary is a proper description for identification purposes.

If a body is not decomposed, the teeth, for instance, the number filled and the kind

and the kind of fillings should be noticed. Color of hair and its length. Any scar or deformity. The height and weight of the body should be also noted.

If the body is decomposed or burned past recognition, sometimes to such an extent that even the sex can not be determined, the fact that the uterus is more resistant than other structures will help to decide whether a man or woman is the subject being investigated. Measurements of the long bones, where merely a skeleton is found, will help decide the height.

Next the cause of death must be determined; the surroundings should be studied for external evidence of a struggle or the means employed. In studying a recently dead body, of course wounds must be looked for, remembering that the dependant parts of the body and in some forms of death post-mortem lividity will be present most anywhere, contusions especially around the throat for signs of throttling.

Post-mortem lividity and the state of the cornea, and the amount of rigor mortis will help to determine how long life has been extinct; although these vary according to the mode death was brought about and the kind of weather, etc.

Post-mortem lividity and ecchymosis are diagnosed by the fact that ecchymotic spots disappear on pressure and the skin is elevated.

In gunshot wounds the finding of the bullet is very important. It may decide the whole case. This is not always as simple as it seems at first thought; if the wound is abdominal, it may be very difficult to locate the bullet. It may be in the opposite wall. It may go through. It may be loose in the peritoneal cavity, or if in the intestinal tract it may be carried down by the fecal current below the point of entrance. If entering the body at other points it may be deflected or flattened. In modern arms and ammunition the force is so great a bullet most always goes through a body. The entrance hole is small and the exit is large and blood-stained.

The question as to whether a body is that of a suicide or a homicide or accident is not always easy to determine. We may find a suicide with two mortal wounds; in fact, it has been found, undoubted suicide have had two wounds, one in the heart and one in the temple, either one mortal.

The direction of entrance, the location of the wound, etc., has much to do with the de-

ciding as to whether it was self-inflicted or not. A bullet wound ranging upward in a body found in the hunting field, in the bush or near a fence, would point strongly toward accident. A short-barreled weapon is more easily brought to bear on one's own body than a long one. Suicide wounds are generally in an easily accessible mortal part.

To estimate by the tattooing and the brand, made by the combustion of the gases burning the clothes or skin, we must know what kind of weapon was used; a shotgun or rifle will brand much farther than pistol, the former as much, at two or three feet, as a pistol the same number of inches. The better pistols, by holding the charges together, will brand and tattoo a greater distance than the cheap, loosely constructed pistol.

The time since the shooting may be important. Experiment has proven that smoke from a .38-caliber revolver could not be detected after from ten to forty-five minutes in different rooms of an ordinary dwelling, some closed and some partly open. Residue of powder in a gun barrel may help some, or the rust that has formed; modern nitro powders rust a gun more quickly than the old black powders.

Death by throttling is not a common method of murder or suicide in this country, but bodies are occasionally found which show marks of that kind, sometimes by fingers; at others cords are used. If done by the fingers the marks are shown by dark bluish or brownish outlines following the outlines of compression by the fingers and thumb, the marks of the thumb being a little higher than those of the fingers.

When a cord is used a line of depression is likely to be found corresponding roughly to the width of the cord. However, if a broad, soft band is used we are not likely to find this mark. Or if it is removed before death the mark is not likely to be so pronounced.

Under the place of throttling we find ecchymotic spots; dissection shows lacerations and compression of soft parts, hemorrhagic infiltrations, sometimes the hyoid bone or the thyroid cartilage is found fractured.

It must not be forgotten that marks of this kind may have been made by the patients falling on something. But in death by throttling, the face is usually swollen, eyes bulge and the tongue is swollen and protrudes between the teeth. The blood is dark and fluid, present in the right side of the

heart and in the veins. While the right heart is distended the left is contracted. Small hemorrhages found on the pleura and eardrum. The brain and cord are congested.

Of course, if there is hemorrhage in the brain, diagnosis between apoplexy and death by throttling must be made.

Bodies found in water are sometimes killed before submersion. External wounds, which are of such a nature to be obvious, will sometimes make it an easy matter to tell whether the body was dead before throwing into the water or not.

Examinations of the small bronchi for a fine froth and dirt or silt will tell the story. There is not much water in the lungs because the blood takes it up quickly. Sticks or dirt grasped in the hands will indicate that drowning was the cause of death.

Identity is hard to establish in these cases at times. A man was found in the Hudson river who was decomposed beyond all recognition. He had a scrap of Federal khaki uniform on, and one or two fingers still had skin that had not sloughed from the palmer surface. Washington records of finger marks kept by the army established his identity.

Sometimes criminals attempt to destroy bodies after murdering. To do this they use fire very often. Sometimes chemicals. In such cases identity plays a strong part, and a very difficult one.

The jawbones and pelvic bones are the slowest to burn. The teeth may be found in the ashes. It is very hard to completely destroy a body by fire. If there are no bones search for teeth. The ashes of a burned body are brownish colored, and there is a fatty substance left. A large amount of phosphates is characteristic.

The chemicals most commonly used are caustic alkalies, because of the popular knowledge of the subject; however, alkalies do not consume as well as acids. Acids will destroy the body completely. Nitric is the best single acid, but a combination of nitric and hydrochloric is better. A brownish fluid is left.

Sudden deaths often assume a medico-legal significance. A woman suddenly sinks down on the ballroom floor and dies of syncope. A man falls dead on the street. Investigation may show a well developed case of pneumonia. Westcott, in the British Medical Journal of October 17, 1891, reported 1,000 cases of death; 303 were entirely unexpected, 210

were syncope, 64 asphyxia and 29 from others.

Bodies examined after unexpected death the fatal lesion must be sought for. Often this is hard to find. Heart and arterial trouble are the most frequent cause of syncope. Of heart lesions aortic stenosis insufficiency give the most unexpected deaths.

Where a female has been killed or injured it is often accompanied by the crime of rape. The clothing of the victim should be examined for stain or seminal fluid. The test which has about the same value as guaiac test or Muller's test for haemaglobin, in the preliminary examination of blood stains, should be made. Dr. Florence is the originator of this test. It has shown positive in a seminal stain over three years old, in testing the threads from the underclothes of a child who had suffered the above mentioned crime. The suspected cloth is soaked in distilled water and then brought in contact with ioduretted potassium iodide and covered with a cover glass. Crystals resembling hematin crystals form. The principal thing to look for, of course, are the peculiar polywog-like spermatazoa. These may be set free from cloth by water and spread on a slide and stained. It is well not to form too hasty an opinion of these. Unless you get the tail or enough of it, do not call it spermatazoa. Some of the spores resemble the heads. These were recognized in the cloth where the stain was three and a half years old.

Crimes on little girls are sometimes committed by the ignorant, with the purpose of ridding themselves of the venereal disease, gonorrhoea. This crime is fastened sometimes by proving the disease present in both the supposed perpetrator and the patient. Often unfortunate females are victims of a sexual pervert, who obtains sexual excitement from the maiming or killing of women. The character of the lesions generally point this fact out. Some perverts always throttle their victims; others slash their breasts, often actually cut the heart out and drink the life blood in their fierce excitement. These men usually repeat the crime several times, and always in the same manner.

Blood stains are very important in fixing a crime upon a suspect or freeing him. First satisfy your own mind that blood stains are present by using some general test, as the guaiac or Muller's test. This last is a solution of zinc dust, sodium hydroxide and Phenothalein, heated together until the color

of the fluid disappears, then filtered. The most minute quantity of haemaglobin in the presence of this and hydrogen peroxide will give a beautiful pink color. Blood stains years old will do this. This, of course, established the fact that haemaglobin is present, taken in connection with the formation of Teichman's crystals, the latter of which are even more specific. These are made by subjecting some of the haemaglobin to the action of glacial acetic acid in the presence of sodium chloride and water slightly warming on a slide under a cover glass when hematin chloride crystals form, which are brown and rhombic in shape.

Then the shapes and size of the red blood cells must be studied. Often the stain in dilute alkali as sodium hydroxide. Of course, if nucleated cells are found you know instantly they are not in human blood. But non-nucleated red blood cells point to Mammalian blood.

The next question is to find whether the blood is human. Nuttall and Myers found by injecting rabbits with the serum of different animals the rabbit's serum would acquire after a few injections, the power of forming precipitates in the presence of serum of an animal of that kind.

Thus ox blood would only show precipitates in the presence of a rabbit's blood that had been subjected to ox serum. So with a horse, pig, etc. A rabbit injected with human serum forms precipitates with the human serum and two or three kinds of monkeys.

This precipitin test is specific and there is usually enough time between the commission of the crime and the trial to prepare a rabbit and examine the blood. If, indeed, you do not keep injected rabbits on hand, as many laboratories do, care must be taken to start several rabbits, as some do not acquire the power and others die from anaphylaxis. In the human the different fluids will form these precipitates in the presence of such serum as you would expect, such as pleuritic, hydrocele, ascitic, etc. This test is valuable, in that it points out as to whether the blood is human or not.

In the same way the study of the hair of different animals repays one when it becomes necessary, as it often does, to decide the identity of hair. The hair of humans differs in microscopical appearance one from the other, but, of course, the different species are entirely different. So the excited layman

finding hair on a club may sometimes be corroborated in his suspicions or doomed to disappointment in the newborn hope of having found a "claw."

Of course, careful post-mortems should always be performed when the bodies of those dead from unknown causes, before the ubiquitous undertaker has a chance to destroy what evidence is present.

If poisoning is suspected, do not send the viscera to the chemist or laboratory in solution. If you are sending a stomach remove it carefully in the presence of competent witnesses and tie the ends and pack in ice and ship immediately.

In doing autopsies care and thought should always be given not to make them more unpleasant than necessary. If done in a private home, effort should be made to not deface or defile anything with the body fluids.

Mutilation which would show in a casket must and can be avoided.

I hope the Association will pardon me for having tried to direct your thoughts and footsteps from the "Temple of Apollo" and the "Groves of Aesculapeus" from the consideration of the things we all most love, that of diagnosing and curing the ills of suffering humanity, to that of helping the blind goddess as she manipulates the scales of justice.

Let us, as gentlemen of high purpose, try to redeem the profession from the ill-repute which expert witnesses have in the last few years threatened to cast on the noblest and purest of all professions.

It seems to me worth while that we should endeavor to establish truth in criminal trials rather than we should degenerate into unworthy partisans of the side which happens to employ us.

DISCUSSION ON THE PAPER OF DR. GOULD.

Dr. A. H. Bunce, Atlanta: I wish to indorse what Dr. Gould has said along this line and to emphasize one or two points brought out by him. One is that we can get the best results by making examination. Even from a medico-legal standpoint, it is best to get the tissues just as they exist in the body and not get them after they have had various preservatives and after the tissues have become decomposed. In other words, these bodies should be examined when

they are fresh. The fresher they are the better and the more reliable the examination. It is even better for the man who is to make the examination to be present and see the gross wounds or whatever is present before he makes the other examinations. That is still more reliable. Knowing the kind of tissue to be examined, the man should be present to see the gross pathology and see the microscopic sections later on. It gives him a better idea and his work is much more accurate.

Last year a negro girl was brought into the Grady Hospital in a comatose condition. The family told the ambulance surgeon that some negro doctor had given her a hypodermic of something and she died soon after arriving at the hospital. They took steps to prosecute the negro doctor, but when an autopsy was made and it was found that she had a double lobar pneumonia, they were satisfied that was the cause of her death, and they let the matter drop.

Another point brought out which is not generally recognized is the fact that it is possible to tell absolutely whether or not a certain blood stain is human by serological tests. It is easy by these tests to tell whether or not you are dealing with human blood. That is very important. In some of the murder cases in my own town when I was studying medicine, stains of blood were found on the clothing. A negro explained that this was caused by pulling the heads off of birds, but it was found that they had used a knife in killing the persons and it was human blood and not the blood of a bird that was present. That often clears up an important point as to whether or not it is human blood with which you have to deal.

Dr. Gould (closing): I wish to thank Dr. Bunce for his indorsement of the paper. I may say in regard to the precipitan test, hydrocele and pleuritic and acetic fluids also give that test.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in your pocket.

FINAL REPORT OF WORK LEADING TO ERADICATION OF HOOKWORM DISEASE IN GEORGIA.*

By A. G. Fort, M.D., Director of Field Sanitation, Georgia State Board of Health, Atlanta, Ga.

Mr. President, Ladies and Gentlemen of The Medical Association of Georgia:

Again I have the honor to report to this organization on the results of the work of the Department of Field Sanitation of the Georgia State Board of Health. This report includes what has been done since the establishment of this department, April 20, 1910, to April 1, 1915. The end to be gained, as the result of this campaign, is the ultimate eradication of hookworm disease in our state. To accomplish this end it was necessary to determine the geographic distribution of the infection; to cure the present sufferers and to remove the source of the infection by putting a stop to soil pollution.

It was realized from the beginning that in order to reach the end in view that our work must be a campaign of education; so we began this work under a system of illustrated lectures which were given in practically every section within the state. Physicians were visited and through them and by personal inspection a general idea of the degree of infection was ascertained. This plan accomplished some good, but failed in a large measure in securing cure for those suffering. Therefore, realizing that our method was lacking in something, the plan of adding microscopic examinations and actual treatments was agreed upon. It was believed that by following this line we would teach much more thoroughly the method of spread and means of prevention; so in October, 1911, with the indorsement of the Georgia State Board of Health and the consent of the medical profession, we established free dispensaries for examination and treatment of hookworm disease. Here we were confronted with this difficulty: that money provided for carrying on this work was to be used for specific purposes, which did not include advertising, medicine or traveling expenses of microscopists. It was necessary, in order to overcome this obstacle, to appeal to the Boards of Roads and Revenues, usually termed County Commissioners, for funds neces-

sary to meet expenses not provided for by the appropriation to the State Board of Health. Eighty-nine counties have complied with our request in amounts varying from \$80.00 to \$250.00. Total appropriated by counties is \$12,645.18; of this amount we used \$10,914.25, and returned to the counties \$1,730.93.

Our plan of procedure is as follows: a representative from our department enters a county where he gains the consent of the local profession and also their co-operation; he seeks the co-operation and indorsement of all organized agencies, then appeals to the Board of Roads and Revenues for the amount necessary to provide for the items not taken care of by the general appropriation. With this assured, with the county superintendent of schools, he visits the different schools in the county and to the students and their parents explains his mission. He then establishes at not less than five points in the county free clinics or dispensaries where he spends one day each week in examination and treatment of all applying to him for same, and at the same time explains to those who are infected or who have children infected, the exact nature of the disease, its prevention and cure.

Campaigns along this line have been completed in ninety-three counties and at present we are waging similar ones in thirteen additional counties. In the ninety-three counties completed 44,140 rural school children, irrespective of clinical symptoms, have been examined microscopically, and of this number 30,285 have been found positive to hookworm. (It is on the microscopic examination of school children that we base our estimate of infection within the county, so you see the percentage on an average is quite high.) Nevertheless, we have not restricted our examinations to rural school children, as our records show that 116,847 different people have asked for examination and received same, and that of these 63,623 have been found to harbor some form of intestinal parasite. Of the number mentioned, 62,147 were found with hookworm; 852 with ascaris; 830 with taenia nana; 23 with trichocephalus; 23 with oxyuris; 22 with taenia saginata; 21 with strongylus, and 5 with amoeba. Of the number found infected, members of our staff have treated for hookworm 56,755 different people, and to this number they have given 92,567 treatments. (Treatments for other parasites are given only at request of local

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

physicians.) Added to this number treated by staff, we have reports from 1,724 physicians; of which number 1,400 report treating 34,282 persons. This, then, makes a total of 91,037 treated for hookworm since April 20, 1910. This does not represent all cases treated, as many physicians have not reported, and many have reported for only one or two years.

In order to secure these results we have mailed out from our office 49,449 letters and have distributed 541,392 pieces of literature; we have delivered 3,102 public lectures, with an attendance of 217,229 persons; we have delivered 686 school lectures with an attendance of 339,834, and of special lectures 81, with an attendance of 4,067. Total lectures, 3,869, with a nattendance of 261,130.

A second campaign has been waged in one county where 941 people were examined; 357 found infected, and 366 treated.

It is quite interesting to note the gradual decrease of hookworm infection as we approach the northern counties of the state, and to further note that the nearer you approach Northwest Georgia, less the infection found, but as hookworm decreaes as you approach the northern counties, ascaris increases, which demonstrates the lack of necessary sanitary precautions in North Georgia of a like nature of those in South Georgia.

How near have we accomplished the ends to be reached? It is determined that hookworm exists in every county in the state, and that the percentage of rural school children infected varies from 99% to 15%. Its geographic distribution is settled so far as Georgia is concerned. As to the cure of the sufferers, we have accomplished much, but have by no means reached all or cured all treated: 91,037 represents those who have received treatment and have been cured or benefited. With so large a number of people reached by lectures, talks and bulletins, is it possible that they will discontinue to seek relief from hookworm? As to stopping soil pollution, we can but say that more than 200,000 people have been told how and that more than 90,000 suffering from this infection have been shown. The necessity of putting a stop to soil pollution is rapidly being recognized by the County Boards of Education, and they are gradually seeing that sanitary measures are applied.

The question naturally arises as to what effect has this work had upon recent legislation. Those who have thrown their life into

it believe that as a by-product the passage of the Public Health Bill and the Vital Statistics Bill was made possible. We further believe that when funds are provided for the carrying out of the provisions of the Vital Statistics Bill and it becomes operative, that the facts which we will gain thereby will enable us to have established in every section of Georgia trained Full Time County Health officers, sufficiently paid to warrant them to properly equip themselves for the service they are to render and to then render the service required; to place sanitary conditions in our state on a high plane and as a result all diseases, and especially those soil-borne, will gradually be reduced to a minimum.

I can not close without expressing to you the appreciation of every man connected with our department for the support which you have given us during the last five years. It is this support which has made possible the results here reported.

DISCUSSION ON THE PAPER OF DR. FORT.

Dr. J. E. New, Dexter: This is a very interesting report. I wish to say a word or two on this subject, not that I would presume to offer any suggestion, but it is just this sort of thing that opens up a field of usefulness to the average practitioner. These extremely scientific discussions are elevating; they are instructive, and we must give credit to the master heads who work out these problems for us, and still we do not get quite the same point of view or the same degree of benefit as we do from those things which touch us all around in our everyday life. Perhaps, just as soon as we get back to our homes, there will be two or three little fellows in our office for treatment; then we are obliged to forget our lantern-slides and our difficult operations and our magnificent scientific work that we have been doing up here and have been hearing about, and have got to get right down to business to treat sick folks.

With reference to the treatment of hookworm, I have had to revise my ideas a great deal within the last few years with reference to hookworm. About three years ago, or possibly a little longer, very soon after this work began in the state, I went before our commissioners in an effort to get them to appropriate some money to fight hook-

worm disease in our county. I was unsuccessful. I made another attempt and went to our commissioners with that benign smile of wise and dissatisfied opinion, and one of them said it was one of those new things which meant more patients and more work for the doctor, and he actually believed it. I was embarrassed and humiliated beyond measure. I did not have the courage to make an open fight, but I got him off in one corner and I gave him the devil. (Laughter.) He was not much bigger than I was and I was not afraid when I got him alone.

This is one of the most wonderful pieces of work that has ever been done in our state. It came to us almost by accident. I have seen hundreds of cases of hookworm infection in my home school of a few hundred pupils. Just a few weeks ago, as soon as we had this work well in hand, we were successful in getting through the proposition. We had between 3,000 and 4,000 examinations made, and 75 per cent of them revealed hookworm. When you realize the enormous prevalence of this disease, it assumes a phase in the public health which we can not afford to ignore. We can do much good.

Four years ago I had an experience with an unusual case. I was called in to deliver a woman in confinement, and after the other doctor had stayed around all day and a part of the night and I had been around a few hours, I found there was no indication that we would get away from there that night. There was no dilatation. The next day I made a diagnosis of extrauterine pregnancy, and it was of eleven months' duration. This was four years ago, and the baby has not yet been delivered. Of course, it is dead now and must be somewhat atrophied. I reported this case before our medical society. For some reason or other the patient got away from me. These cases are rare and are interesting, but we can not do the amount of good we can accomplish without getting right down and doing real hard work.

Dr. E. E. Murphey, Augusta: I do not think that the state of Georgia has yet realized the debt which it owes to the Rockefeller Commission and to Dr. Fort and his co-workers along this line. I do not believe we are going to recognize the full extent of our indebtedness for at least a decade, but to everyone who has been brought in contact with public health work, polyclinic work, or work of any character, where a large num-

ber of the poorer class of the state pass through our hands, it is obvious now that this commission has left a deep impression upon the people of the state, one which is far-reaching in its extent, which is going to work untold good to those who are living today and to the coming generation. Not only will it work good in the alleviation of the present suffering and distress and in restoring to usefulness citizens heretofore useless, but more important than that is the educational work that has been done, and those who needed education worse than any set of citizens in the state of Georgia were the doctors of Georgia. We had only a didactic interest in hookworm when this work first began to be brought forward. We know it was an interesting pursuit, and the condition about which justice could often be met, and beyond that we knew very little. Today we have learned the extent of the infection, the degree of impairment of usefulness brought about by its presence, and where we no longer make a tentative diagnosis of malaria, of idiopathic anemia, of tuberculosis, but of hookworm infection which confronts us.

Not more than five years ago it was practically an insult to tell the average parent in the state of Georgia that her child was infected with hookworm; that other people's children would have this disease, but not hers. It is my observation now that country parents, when any of their children have an apparent anemia come to the clinic and ask us to find out whether or not these children have got hookworm. It is that educational influence, extending first to the physicians of the state, and then to the teachers and school children and parents which in the course of time will make this disease practically a curiosity. We are on the right track, and I do not believe we can ever resist the present status of progress in this direction. The treatment of hookworm, looking for it and taking care of it, will be regarded as a public health problem in this and every other county of the state of Georgia.

Dr. W. W. Pilcher, Warrenton: Dr. Murphey has reviewed the work more beautifully than I could do. One point I want to bring out is that not only has Dr. Fort eliminated hookworm from the county where he is, but he and his assistants have worked with these practical illustrations, with these

slides and lectures, until this work has been monumental. One can hardly appreciate to the fullest extent what work they have done towards educating the people.

In view of the work Dr. Fort has done, and in view of the work that has been done by his assistants, it is befitting that the Medical Association of Georgia should give him a vote of commendation and congratulation on this work, and in that vote I would request that our secretary convey to the Rockefeller Commission the feelings we entertain toward Dr. Fort as the result of this work.

I move that as an Association we take that vote here and now.

Dr. L. C. Allen, Hochston: I desire to second the motion of Dr. Pilcher, and in doing so I want to express my appreciation of the very satisfactory manner in which Dr. Fort has done this work. He could have gone at this job in a way that would have brought about considerable friction between the authorities engaged in this work and the medical profession of Georgia, but he has been careful to avoid anything of this sort and his work has been eminently satisfactory and in harmony with the medical profession of the state of Georgia.

Dr. Fort told us he has examined 44,000 school children. I want to emphasize the fact that there is a great deal of work yet to be done, and while Dr. Fort has made a magnificent beginning, a most praiseworthy campaign, yet this campaign is coming to a close. His work will soon be finished, and it then falls upon us as members of the medical profession of Georgia to take up this work and carry it on. There are in the state of Georgia 795,000 children of school age. Dr. Fort has examined 44,140, leaving still in the state of Georgia 750,000 children who have not been examined for hookworm. That shows the great amount of work that still ought to be done in this state, and it is up to you and I to do this work and carry it on.

I heartily second the motion of Dr. Pilcher.

Dr. T. J. McArthur, Cordele: I desire to discuss one feature of the subject in the paper, and that is that in the beginning of this work by the Rockefeller Commission and by Dr. Fort and his co-workers, there was not only a great deal of doubt in the minds of the public and physicians, as has been stated today, but there was in the lay press a tendency to criticize and discuss the mat-

ter in a discouraging way. I think that the report Dr. Fort makes today should silence forever such a criticism.

I believe that there is nothing that has occurred in the history of medicine in Georgia which has had such a helpful benefit, which has been more helpful in the way of educating the entire people, the public, the profession, including the press, as has this work. I do not believe that here is any factor, not excepting the medical profession *per se*, that has been more helpful, as Dr. Fort stated in his paper, in enabling us to pass a medical practice bill two years ago, a public health bill, and a vital statistics bill last year. Those of you who are not active in this work, and not on the ground, can not know and will never know how easy it was, although it did appear hard at times, to pass these measures.

The work Dr. Fort and his co-workers have done at home created a sentiment which not only made it easy to approach our representatives in the legislature, but in many instances they were found ready. I think that, as Dr. Pilcher has stated, this Association ought to go on record not only indorsing the Rockefeller Commission, but to publish to the world that we do recommend and do give it our indorsement and let the public know that we do it.

Dr. R. P. Cox, Rome: I want to make the statement that as long ago as 1902, in the month of April, thirteen years ago this month, in a certain school where I do work in special lines, it was suggested that I make use of the microscope and see what could be done in reference to the detection of hookworm, and these results may be of some interest to you. In the first few years of this work the average number of pupils found to be infected, where the eggs were discovered, was 56 per cent. Gradually it fell until the last year or two, when it is below 25 per cent, with new pupils coming in. Some of the worst cases of hookworm were in the dirt-eaters from South Georgia. In a number of cases there were more than a thousand worms recovered from these patients. One case in particular was a boy from South Georgia. I found dotted over the state that there was pretty nearly a general infection with hookworm of the pupils coming from different parts of the state.

I appreciate very much the work of Dr. Fort and his co-workers, but thirteen years

ago we began systematic work along this line, which I believe was the first work done in Georgia.

Dr. A. D. Little, Thomasville: We all realize from Dr. Fort's report of this hookworm infection that it is too great a problem now to allow it to drop, and that is exactly what we will do unless we wake up. Realizing this and seeing that the Rockefeller Commission was not going to exist always, the Board of Health realized that something should be done to continue this work, and I think the Ellis bill was the result of this realization. I would like to say we have fallen down on the job. This Ellis bill is not recommended by the grand jury because we are not pushing it. It is the easiest thing in the world to go before grand juries and explain the bill and ask them to pass it, and the appropriation will be made and the hookworm campaign will go on, and in addition to that we will have many more benefits.

I want to ask the medical profession represented here not to overlook the fact that the Ellis bill is absolutely void unless it is put into effect. Everybody's business is nobody's business, and if the same group of men will take up this work and the grand jury is informed, it will help matters very materially in this state.

Dr. R. H. Stovall, Macon: I desire to indorse what the other members have said about the work of Dr. Fort and his co-workers. I want to emphasize one point in his paper which I think is worth laying stress on. I think in some places and in some points a good many doctors are skeptical about the effectiveness or treatment of hookworm infection because they are getting such poor results from the treatment. When hookworm was first treated we were told to give one treatment of thymol. It was found that that was not enough. We were told that some anemic fellow would have a dose of thymol and would soon be well and strong again. While I have not treated as many cases as some of the other members of this Association, I find that it takes eight or ten treatments before we can get a robust, pink-cheeked boy.

Dr. Fort (closing): In the beginning of our work the Rockefeller Sanitary Commission gave to the Georgia State Board of Health money to carry on the work, and we were cautioned never to mention only to a

body of this kind the fact that the Rockefeller Sanitary Commission always referred to it as the Georgia State Board of Health, and I would appreciate it most highly if you will allow the secretary to insert the State Board of Health of Georgia where my name is referred to as carrying on this work. It was the State Board of Health which utilized the agencies for our carrying on the work, and they should receive the credit for what has been accomplished. It is certainly not myself who has made this thing possible, but the co-operation of you gentlemen with the men who are sacrificing their lives out in the field every day on the firing line who have done the work. They have done much harder work than we who have had charge of the administrative end of the work.

I appreciate most highly the different remarks made relative to this work. I appreciate it as a recognition of the work, and I personally appreciate the friendship of about 2,000 doctors in our state.

When we get into this work we want to do more of it, and you can not help it, and you go at it. You are obliged to keep pushing it. When you go into a county and see a thousand pale-faced children and you see you are helping to cure those children you can not quit the work. You keep working all the time on that special line.

Dr. Allen has stated to you that there are 750,000 school children in the state that have not been examined. In the different cities of our state we will have medical inspection of school children, and probably we will have it in all of them before long. The rural people are the ones which the State Board of Health wishes to reach and to help. The children and people in the larger cities are well taken care of by their own municipalities.

I thank you all very much for your remarks on the report, and for the indorsement of the work which the state board has presented to you. (For particulars regarding Dr. Pileher's motion, see the Minutes.)

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THE COMMERCIALISM OF PHARMACY AND THE REASON.*

Arthur D. Little, MPh., M.D., Thomasville,
Georgia.

The profession of Pharmacy is one of the oldest and most respected of professions, and as a boy I regarded it so highly I selected it as my future vocation, and since this fabric of discussion is weaved from personal experience and first-hand observation, you will pardon the thread of autobiography that runs through it.

I was apprenticed at an early age to learn as much as possible in a drug store, and was so enthusiastic I felt highly honored when allowed to wash pill files and spatulas, and suffered all the inconveniences when I had to powder Aloes without a murmur, and when I was allowed to fill and label a bottle of Nitrate of Magnesia my joy for the moment was complete.

After some years of this apprenticeship I was allowed to fill a few simple prescriptions, and desiring to be able to do the full work of a prescription clerk, I entered a first-class school of Pharmacy, and in due time received a Master degree, after which I worked as Dispensing Pharmacist in one of the large hospitals in Baltimore, and thought I knew something of Pharmacy and its allied branches, but when I went up for examination in Georgia I found that I knew much less than the boys who had received degrees from colleges who boasted one professor, and the college was located in a loft over a drug store.

After registering I obtained a position in a drug store where worked one of the high honor boys from a one-professor school, and of all the ignorance of practical or theoretical pharmacy, my friend was it; he did not know tinctures could be made from powdered drugs, but since the store contained none, it did not matter; however, a full line of fluid extracts were in stock, and the directions for making tinctures on each bottle.

The next thing I discovered was that a very limited stock of Pharmacopœial and chemical products were necessary, as nine-tenths of the prescriptions were poured from a patent medicine bottle (dignified by the name Pharmaceutical) into a prescription bottle.

The above conditions being facts I naturally felt I had thrown away a lot of time and money on a profession that had deceased; at times I was confused when a prescription for Dioiburnum or other patent medicine would come in, as it sounded so much like some real drug I would rack my brain and review in my mind the pages of the Pharmacopœia and dispensatory to try to locate it, and would finally have to call on the high honor boy to help me out, and believe me he was always there with the Dios Chemical Company bottle, and my regrets would again overwhelm me; however, in the course of time, I could transfer the contents from an Aletris Cordial bottle with the best of them, and though I worked most of the time with a druggist who never saw a college, and frequently did not have a license, by a little practice in compounding coca-cola I was able to hold my job and obtain the same salary.

The above related conditions in time became disgusting, and I wondered why the medical profession did not require a high type of Pharmacist, and my curiosity getting the best of me I decided to enter the medical college, and lo and behold the secret was revealed, for in this high-class medical college we were given only a few lectures on Pharmacy and prescription-writing, and most of that was inaccurate? This was given in the first year with three years in which to forget it, and a medical student is a wonder when it comes to forgetting things when an examination will not be required.

In the second year the physiological action of certain drugs are demonstrated and are remembered long enough to get by the State Boards; then offices are opened and we are at liberty to do all the good or damage we please, and the first caller we have is a representative of a so-called Pharmaceutical house; his card has an M.D. after it, and should be a dead give-away, for it shows more or less conclusively that he had attempted to succeed with the line of stuff which he now can so beautifully demonstrate. I fully believe these houses double their traveling force following the annual medical school hatching, and what I have said of the teaching in the medical incubators you may imagine how many converts are made, and most of them take a life membership, and write Trade Name prescriptions for the remainder of their professional lives, and granting many of the preparations are worthy, I

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

make bold to state that most of the physicians who prescribe these mixtures daily could not give you their formulas or even the per cent of active principles or dope, so is it any wonder that a drug store owner would as soon have a "So much down and so much after you get a job" graduate as a real Pharmacist?

As a matter of fact, the profession of Pharmacy has been commercialized, and men are found operating drug stores when they were previously in the grocery business, and they are the source of the much-discussed counter-prescribers, and they give the same Trade Name remedies as the doctors, and, in my opinion, have about the same right.

I know from experience and observation that the above facts are true and the medical profession and the medical college are to blame.

Again I say the profession of Pharmacy has deceased, and it is not unnatural, for it is a law of Nature for things to cease to exist when there is no longer a need for them.

POSSIBLE DANGER OF THE ROENTGEN RAY IN LATENT PELLAGRA—A PRELIMINARY REPORT.

George M. Niles, M.D., Atlanta, Ga.

Since the Roentgen ray as a diagnostic agent in gastro-intestinal conditions has passed from the speculative stage to that of necessity, it may be well to report the following cases. They present a disquieting possibility that should be recognized, especially among those who are called upon to diagnose obscure manifestations of digestive ill-being:

Mrs. W., aged 34, was referred to me for indefinite digestive disturbances, extending through the past five years. She reported occasional attacks of apparently causeless diarrhea, much nervousness, but no dermatitis.

Physical examination disclosed nothing except a hyper-sensitive abdominal surface, and a test-meal showed a stomach practically normal as to secretion and motility.

A Roentgen examination being desired by her, I made five Roentgenograms of the stomach and intestines on October 2, 3 and 4, 1914, the last being a colon injection. A $5\frac{1}{2}$ -inch spark-gap was used with 80 milliamperes, each exposure lasting one-half second.

On October 8th, she had a lacerated perineum repaired and the surgeon at the time

of operation noted an augmented redness of the vagina and muco-cutaneous margins of the anus.

By October 12th she developed an acute inflammation of the mouth, tongue, rectum, and vagina, coincident with extreme nausea and diarrhea. A diagnosis of acute pellagra was made, and for six months she followed the usual course of a severe case of this malady, with accentuated gastro-intestinal and nervous symptoms. She has made a partial recovery, though irreparable damage to her nerve centers has ensued.

Miss A., aged 42, had been in declining health for about a year, having lost 50 pounds during the four months before I saw her. She was nervous, psychasthenic and pessimistic, with nearly constant manifestations of gastric distress.

She was referred to me only for a Roentgen examination of her digestive tract, this being made on October 23d, 24th and 25th. She was subjected to five exposures of one-half second each, with the same spark-gap and milliamperage as the previous patient; marked intestinal stasis, with a dilated cecum and colon were demonstrated, and I saw her no more.

Continuing more and more nervous, about twenty days after the Roentgen examination she developed an acute stomatitis, gastro-enteritis, proctitis and vaginitis, with all the other concomitant symptoms of acute pellagra. Her condition grew rapidly worse, and she died in about a month.

Those who have carefully observed pellagra well know the malign influence of strong light, especially the actinic rays of the sun, upon the skin of pellagrins. Many cases of seeming convalescence, where the dermatitis had subsided, and other symptoms were practically quiescent, have, in my experience, been rekindled by exposure to strong light or heat, even for a brief period.

In these instances an acute dermatitis over the uncovered area was the first manifestation, but this was from exposure to rays which did not penetrate the skin.

In the employment of Roentgen rays, which *do* penetrate, not only the skin, but all the structures of the body, we must consider the possibility of these rays forcing to the surface a latent pellagrous process, which may be lurking in the mucous linings of the bodily orifices, the gastro-intestinal tract, and perhaps the nerve centers.

At present, I do not recommend that the

X-Ray be employed for any purpose in any stage of this disease, and I am most cautious in its diagnostic application where there is the least reason for suspicion, lest a smouldering pellagra be activated into a furious and deadly syndrome of symptoms.

HYGIENE VS. MEDICINE IN THE TREATMENT OF SKIN DISEASES.

Cosby Swanson, M.D., Atlanta, Ga.

There is no branch in which hygiene plays so important a role as in the treatment of skin diseases. The results secured depends largely upon the successful carrying out of the hygienic treatment. In some cases it is often neglected entirely, or if attempted, carried out vigorously.

In treating skin diseases the question of bathing always presents itself. Its proper regulation is most important and should never be overlooked. Those with normal, healthy skin should never think for a moment that the daily bath is injurious. The person who bathes frequently is healthier than he who does not; bathing as sometimes practiced is unnecessary and often harmful. It is not only the injurious effect on the skin that has to be considered, but the harmful effect on the circulation causing internal congestion, etc.

It is well to remember that the skin is an important excretory organ, assisting the kidneys and the alimentary canal in eliminating waste products. On irritable skins the excessive use of water increases the irritation, causing an acute inflammatory condition, which prevents the skin from performing its normal function.

Uncleanliness is the indirect cause of most parasitic diseases. In both vegetable and animal parasitic diseases, the hygienic treatment is of the greatest importance. Before parasitocidal remedies are applied, the patient should take a warm bath, using soap and water freely. All underclothing and bed linen should be changed and all other wearing apparel should be sterilized by exposure to intense heat, 212 Fahrenheit or more for twenty minutes.

The hygienic treatment in microbic affections of the skin is also most important. The organisms usually gain entrance by a breach of the skin or the adjacent mucous membrane; often the breach is microscopical in size. The infection takes place in some cases

through the blood stream from within, but in the majority of cases it takes place from without. In a large number of cases the infection complicates other diseases, such as scabies, pediculosis, eczema, etc., caused from scratching. Before beginning treatment every source of irritation should be removed. In those cases where the infection is secondary to some other condition it must be sought for and removed. Should the patient's occupation be the exciting cause it is often necessary to make a change.

The skin should be thoroughly cleansed, using mild antiseptic lotions, such as solution of boric acid, Lysol. Crusts should be removed and pustules opened. The applications should be non-irritating antiseptics, changed several times daily.

In dealing with industrial skin diseases, such as are often seen in masons, plasterers, workers in dyes, mineral acids, etc., it should be remembered that the hard armour plate of keratin has been dissolved out of the skin, leaving the pores open for infection. To successfully treat this class of cases it is often necessary to change the patient's occupation, remove all irritating substances, allow the sweat and sebaceous glands to functionate freely in order to keep the skin soft and healthy, which gives it a resistance against infection. The surface should be freed from all products of the disease, such as scales, crusts, pins, etc. This can usually be done by using starch poultices to soften the skin, then gently sponging with olive oil. After thoroughly cleansing the surface some soothing, mild antiseptic should be applied.

In treating eczema the general hygienic principles should be kept well in mind. The greatest difficulty in the treatment of eczema and perhaps the greatest number of errors are made in the failure to properly apply the medication to the affected area. Another great error, which is distressing to the patient, is the too frequent use of soap and water; especially is this true in acute cases. It is hard to fully appreciate the intense irritating effect of water in acute eczema and it may safely be said that soap is seldom advisable. The diseased area can usually be cleaned by using cold cream, sweet oil, or olive oil. In cases where a bath is indicated it is generally advisable to add a pound or two of starch, gelatin, or oatmeal to soften the water. The soaps which are advertised as curative, whether they contain sulphur, tar, Ichthylol, carbolic acid, or what not, are

all a delusion and a snare. In the later stages, however, the use of soap and water produces a different and beneficial effect. Alkaline baths in some cases are of value to improve the general action of the skin, as well as to have a beneficial effect on chronically diseased surfaces. Both in acute and chronic cases remedies must be applied to protect the surface from all external irritants. This is most important and should never be overlooked.

The diet should be plain, nutritious and of sufficient, but not a superfluous, quantity, such foods as pork, salted meats, veal, lobster, crabs, fried dishes, gravies, cheese, pickles, sauces, condiments, and like articles are to be avoided. Some individuals are so constituted that whenever they eat certain foods, such as fish, strawberries, bananas, stale articles, nuts, cheese, cakes, mince pies, etc., will often produce an outbreak of eczema. A continuous error in the diet can and often does induce or at least keep up the tendency to the eruption. Exactly in what manner diet has its influence upon the state of the skin can not be accurately stated. The patient with eczema, in the vast majority of instances, has committed some error of diet which, if not corrected, will retard its cure. Errors may occur in the direction of too little food being taken, but in the vast majority of cases the quantity of food taken is rather in excess than otherwise.

In acute eczema it is often desirable to modify the diet considerable, cutting off for a time most, if not all, meats. Rice is one of the best articles of food that can be taken. Milk often serves well, preparations of wheat, such as dry toast, stale bread, with butter, may be taken, vegetables and some fruits are seldom harmful.

The etiology of acne is still unknown notwithstanding the brilliant work of Gilchrist, Adamson, Engman, and others. The most lasting results are secured in the treatment of acne by instituting the necessary hygienic measures. The hygienic treatment embraces not only local treatment, but systemic as well. In the majority of cases where there are many contributory causes which require removal, and unless this can be done very little permanent benefit can be secured from the treatment. Cases dependent upon constipation and dietetic errors, appear to be the most difficult to cure. The diet should be non-stimulating; avoiding highly-seasoned dishes, pork, pastries, sugar and indigestible

foods generally, together with all forms of alcoholies. It is important that the scalp be thoroughly freed from seborrhea, carious teeth should be attended to and any pyorrhea alveolaris cleared up. The value of exercise in the open air, calisthenics, bathing and other hygienic measures can not be overestimated. Local antiseptic applications are most important. In sluggish cases the face should be washed with mild toilet soap, followed by hot fomentations; all comedones should be removed and pustules open before applying the remedial applications.

Among the most important advances made during the past few years is the discovery of the *Spirochaetae Palida*, and the new methods of treating syphilis. Syphilis, as we all know, depends upon a living and specific organism; infection can be transmitted only so long as the micro-organism retains its vitality; the disease is conveyed from one person to another only by direct contact of surfaces, or through abrasions, cracks, ulcers, and by heredity. With this knowledge its improved hygienic treatment has been made possible. The prevalence of syphilis is due largely to the lack of knowledge of the method of prevention of the disease among the laity. Whether syphilis should be made notifiable or not and upon other less important points, opinions are divided. The idea of notification upsets many because they do not want the past resurrected. At least medical men should be better trained in the early detection of this disease, for the greater number of cases of syphilis are contracted from recent infections. Any open syphilitic lesion, regardless of the duration of the disease, increases the chances of transmission considerably; therefore, not only should the diagnosis be made as soon as possible, but the best means of healing the wound should be employed. Our present methods of treatment are sufficient to prevent its transmission, but actual facts, as testified by many physicians prove that it does not. The fault lies in the fact that we have no reliable way of compelling the general use of preventive measures in those that acquire the disease. Men of large experience realize the importance of thoroughly treating syphilis and especially the hygienic measures, for without this form of treatment its spread can not be prevented.

To get the best results in the treatment of syphilis it is always necessary to enforce the elementary rules of hygiene, such as reg-

ular hours, simple food, fresh air, exercise, care of the mouth and teeth, abstinence from the excessive use of tobacco, aleoholics and other stimulants, and every possible care should be taken to keep the body in as vigorous a condition as possible.

The question of prophylaxis of syphilis has outgrown our former infantile attempts. Today it imposes duties not only on the medical profession, but also on legislators, philanthropists and social economists. I am aware that our present methods of dealing with syphilis are not sufficient to prevent its spread. And this is due largely to a failure in getting the co-operation of the syphilitic patient. The question of prevention and treatment of syphilis is a serious one, one that should receive more attention than is now does.

The public generally should be enlightened as to the origin, method of contagion, etc. Boys and men should be instructed in means of prevention and urged to avail themselves of the immunity resulting from the effective use of known preventive measures. A pamphlet, like the one issued by the office of the surgeon general's, United States Army, should be circulated. The treatment consists in thoroughly cleansing of the genitals, using 1-5000 mercuric chloride solution; injection into the anterior urethra of 4 C.C. of 20 per cent Argyrol solution to be retained five minutes; the application to the entire penis of 2 to 4 grams of 30 per cent calomel ointment, especial attention being given to the glands and prepuce.

In conclusion: In the majority of skin conditions medicinal treatment without attention to the laws of hygiene is practically useless, whereas in the majority of cases hygienic measures alone will effect a cure.

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OSTEOPATHS AND THE HARRISON LAW.

The Harrison Narcotic Law has now been in force six months, and some of its by-products are becoming apparent. One of the unexpected developments is the attitude of the osteopaths toward the law. Osteopathy, as is generally known, originated in the dreams of a country doctor in Missouri, about a quarter of a century ago. It is based, according to its founder and prophet, on the following propositions: The human body is a machine; disease is due to the dislocation of

some structure in the body; the treatment of any abnormal condition is to find the dislocated structure and restore it to its proper position. None of the statements is true as a generalization, yet each one has in it a grain of truth, just enough to enable the ignorant and enthusiastic disciple to make out a case to a receptive listener. But the real reason for the temporary vogue of osteopathy is the accidental fact that this cult arose just at the time when the advance of scientific knowledge regarding disease was demonstrating the falsity of many of our previous ideas regarding drugs and their value. The public, catching this spirit from the medical profession, began to waver in its allegiance to powders and pills, and so was psychologically receptive to the claim of the osteopath that his "system" was a drugless one, that drugs were not only of no value in the treatment of disease, but also were responsible for most of human ills. In addition to osteopathy, a countless succession of other freak sects made capital out of this "drugless healing" cry. In each state the advocates of osteopathy appeared before the legislature and demanded the passage of a law which would "recognize osteopathy" as a drugless system of treatment, something entirely apart and distinct from the practice of medicine. This was the basis on which they were given separate laws, boards and standards, and this is the only ground on which they could be so recognized. The Harrison law provides for the registration of physicians, as a means of restricting the use of certain drugs to legitimate purposes. In several states the osteopath has demanded the right to register under this law, regulating the use of drugs which, according to his own teachings, he never uses and does not believe in. "For," he says, "am I not a physician with all the rights and privileges of one?" To the ordinary mind, it would seem clear that the osteopath either is or is not a physician. If he is, then in the opinion of The Journal of the American Medical Association, he is subject to the provisions of the Medical Practice Act, and should be required to conform to its educational requirements. If he is not, then he is not qualified to register as a physician or to perform any of the legal functions of a physician, least of all the dispensing or prescribing of powerful drugs, the use of which is directly opposed to osteopathic teachings.

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OF THE

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NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

MEETING OF COUNCIL.

The regular semi-annual meeting of the Council of the Medical Association of Georgia was held in Atlanta November 17th. The meeting was called to order by the chairman, Dr. E. T. Coleman, of the Twelfth, who asked that the Councillors report in their regular order and at the same time make such suggestions as they felt would be of advantage to the Association.

Dr. J. Lawton Hiers, of Savannah, in reporting for the First District, suggested the adoption of a legal defense for members of the Association, and stated that, in conference with the Treasurer, it was believed that such a feature might be adopted for the ensuing year.

Dr. A. D. Little, of Thomasville, reporting for the Second District, suggested that District Societies hold their meetings in some of the smaller towns of the district rather than in the larger ones, and stated that his

experience had shown that such a course tended to arouse the interest of members residing outside the larger centers.

Dr. V. O. Harvard, of Arabi, reporting for the Third District, suggested that the Councillors appoint as Vice-Councillors men who would take an interest in the Association's welfare and who were willing to do such work as was necessary in that section of the district adjacent to them.

President Goldsmith reported that Dr. H. W. Terrell, of LaGrange, the Councillor of the Fourth District, had wired him that sudden emergency work prevented his attendance at the meeting.

Dr. W. L. Champion, of Atlanta, reporting for the Fifth District, suggested that Councillors make an effort to secure members for the District Societies where they found it impossible to organize County Societies. He felt that a number of members might be secured for the Association in this way.

Dr. J. H. Riley, of Haddock, reporting for the Sixth District, stated that he had just been appointed to fill out the unexpired term of Dr. J. R. B. Branch and, therefore, was not sufficiently familiar with the work required of a Councillor to make any suggestions.

The Seventh District was not represented.

Dr. E. G. Adams, of Greensboro, reporting for the Eighth District, suggested that Councillors take immediate action toward ascertaining the cause of dissensions arising in County Societies, especially where complaints of unethical conduct on the part of members of the Association are made.

Dr. L. C. Allen, of Hoselton, the Councillor of the Ninth District, being a member of the House of Representatives, was unable to attend, as the House was in session at the time.

Dr. J. A. Price, of Milledgeville, reporting for the Tenth District, suggested that Councillors write personal letters to all present members of the Association urging them to pay their dues promptly and retain their membership.

The Eleventh District was not represented, as the Councillor had recently removed from that District.

Dr. E. T. Coleman, of Graymont, reporting for the Twelfth District, suggested that County Societies be advised to hold their meetings in the afternoon or evening, and that more attention be paid to the social features of such meetings. He stated that it was often impossible for the country doctor to leave his work in the forenoon, but by

holding meetings later in the day, such doctors could make their calls and reach the meeting place without serious inconvenience.

The Secretary reported that certain County and District Societies were still accepting as members men who had not paid their state dues, and that such was a violation of the by-laws. He likewise requested that the Secretaries of County and District Societies be requested to furnish him with all papers read at meetings of such Societies, such papers to be published in the state journal as required by the by-laws.

He called attention to the fact that the fiscal year of the Association ends December 31st, and members in arrears at that time are automatically suspended from membership. He further called attention to the provision of the by-laws whereby a county failing to make its annual report before April 1st would not be allowed to seat its delegates at the annual meeting of the Association, and members of such Society could not be accorded the privileges of the floor.

It was moved by Dr. Harvard that a committee of three be appointed by the chair to devise plans looking to the adoption of a legal defense feature for members of the Association. The motion prevailed, and the chair appointed on this committee Drs. Goldsmith of Atlanta, Lyle of Augusta, and Hiers of Savannah.

President Goldsmith, in addressing the Council, stated that he had appointed Dr. J. G. Tuten, of Jesup, as Councillor for the Eleventh District to fill out the term of Dr. Lee Howard, who had removed from the district.

Upon motion the meeting adjourned and accepted the invitation of President Goldsmith to be his guests at luncheon.

THE TRAGEDY OF UNPREPAREDNESS IN MEDICINE.

A recent number of a periodical published in the interests of osteopaths contains a number of references to the death of a boy from diphtheria. A death from any cause and even one from diphtheria would not usually have caused so much comment, but this boy happened to be the son of the editor, who is an osteopath. The reports show that the disease was not recognized until a physician—a graduate of a Class C medical college—was called in, and he thought lobelia was better than anti-toxin. The editor is now mourning the

death of his son, regrets that anti-toxin was not used, and has started a campaign among osteopaths urging the use of anti-toxin in diphtheria. Pathetic as are the statements of this heart-broken father, they show unquestionably how slight was his knowledge of the simplest fundamentals of medicine. They show also that the admission to practice of any one who is tied down to a theory, a cult or fad, who has not previously been trained in the underlying medical sciences, is a menace to the public. Some of the editor's statements follow (the words in brackets and the italics are ours):

"Billie had diphtheria four days before we knew what he had. . . . I had **never seen a case of diphtheria before; never even thought of looking at his throat.** . . . Dr. ——— was called the fourth day and diagnosed the trouble at once. He is an M.D.; has had wide experience; has had the training so many of us have not had."

Here is, indeed a frank acknowledgement. In another paragraph he says:

"For many years I have been interested in diphtheria; have tried to figure out what I could do if my boys ever got it. Talked with ——— [named two osteopaths] and many others **in re** anti-toxin. They usually **didn't believe in it.** I suggested using it on Billie when Dr. ——— [the M.D. referred to in the foregoing paragraph] was sure it was diphtheria. He thought lobelia best."

Unfortunately, the "graduates" of some low-grade medical colleges are deplorably lacking in their medical training. The editor continues:

"I don't understand anti-toxin; I can't understand how a poison can cure disease or neutralize poisons. Yet when the death rate is cut from 50 per cent. to 10 per cent., isn't it best to be a physician first, an osteopath second?"

And in another paragraph:

"Billie depended on his father. I in a way failed him. While I lived up to the best light I had, still **my osteopath's training obscured my sense of fairness;** I think now I made a mistake. I did not give him the best care that his generation afforded."

This periodical also prints an editorial reproduced from another osteopathic periodical which is likewise advocating the use of anti-toxin in diphtheria. Extracts from this editorial show that other osteopaths are likewise seriously ignorant of the simplest facts of bacteriology, of infectious diseases and of the

methods of preventing their spread. For example:

"Much ignorance regarding and much unreasoning opposition toward the administration of anti-toxin for diphtheria still exist in our profession."

Again:

"Some who criticize anti-toxin have never treated a case of diphtheria. Others have never seen [possibly never recognized] a case. Some admit freely they would refuse to treat diphtheria if 'they knew what they were getting into.' They explain that they 'do not cater to that kind of practice.' They 'do not like contagious diseases.'"

Another osteopath is quoted as saying:

"How many of us ever saw a case of diphtheria during our student days? Even if we used anti-toxin how many of us would know how to use it? Personally, I believe in it, but I regret to say, **I doubt if I would know a case of diphtheria if I saw it**; was not trained to know it. . . . Two days ago I talked to a 1915 graduate who has never seen a case of measles, scarlet fever, diphtheria, erysipelas, typhoid fever, or a single obstetrical case. He knew all about mumps, as he had them himself during his senior year."

The paragraphs quoted show the fallacy of the belief which appears to be prevalent in some states, that an individual may be safely permitted to practice a single branch of medicine, or make use of a single method of treatment, without first undergoing a complete course of instruction in the fundamentals of medicine. If the editor of the paper quoted, before specializing in osteopathic methods, had obtained a complete medical training, it would have enabled him not only to recognize diphtheria in its earlier stages and possibly prevent the death of his son, but also to understand why anti-toxin has reduced the death rate in diphtheria "from 50 per cent to 10 per cent." An important question—as far as the public is concerned—is: How many other children have lost their lives in his practice and in that of the thousands of others who have assumed the role of physicians, but who are unable to "know a case of diphtheria if they saw it" or who can not "understand" or do not "believe in" anti-toxin? And diphtheria is only one of the many diseases, contagious or otherwise, which for their most favorable treatment require a positive and early diagnosis. While urging other osteopaths to make use of anti-toxin in diphtheria, therefore, this editor at

the same time might well urge that all practitioners of osteopathy and other cults enter some good medical school and complete their medical education so they may give their patients the benefit of the researches of Pasteur, Koch, Klebs, Flexner and others, which have done so much to reduce the death rate from contagious diseases and saved untold thousands of lives by the prevention of epidemics. If the death of this small boy will lead to such a reform, he will not have died in vain.—*Jour. A. M. A.*

"CARDUI: THE STORY OF A NOSTRUM."

In the current issue of Harper's Weekly appears an article, under the title quoted above, announced as the first of three to appear on the subject of "Wine of Cardui" and "Black Draught," two nostrums put out by the Chattanooga Medicine Company. These articles are written by a Dr. Bicknell, who is said to have been in the employ of the Chattanooga Medicine Company for some years as their chemist. Certainly the details he gives indicates a familiarity with the business that could be expected only from one who had been employed in some such capacity. The current article traces the growth of the Wine of Cardui business, and illustrations are used to show the evolution of the nostrum label from "Nature's Great Emmenagogue" to "20 Per Cent. Alcohol." While the author denies that the Chattanooga Medicine Company's nostrum will perform the many wonders claimed for it by its manufacturers, he says "there is one miracle that Cardui can perform—a miracle quite as wonderful, perhaps, as the regulation of the menstrual function; it can make money." According to Bicknell, Wine of Cardui contains blessed thistle and an insignificant amount of black haw. These herbs, says the author, "whatever their life-giving potentialities, are at least conveniently inexpensive." Then follows a computation of the cost of making and marketing a gallon of Wine of Cardui. This shows that the contents of each bottle "cost a trifle over 4 cents." For the bottle, corks, labels, carton, packing case, etc., he computes an amount that makes the cost of a bottle of Wine of Cardui, packed ready for shipment, total a little less than eleven cents. To this he adds the "patent medicine" maker's largest item of expense, advertising, bringing up the total gross cost of the nostrum to a trifle under

26 cents a bottle. It sells for \$1.00 a bottle. These statements prepare one for the claim made by Dr. Bicknell that during the past year "the **net profit** of the year's sale of Cardui amounted to \$949,200!" These figures are enlightening. They help one to understand the lavish expenditure of money that followed the filing of the suits by the Chattanooga Medicine Company against The Journal of the American Medical Association and its editor. Those engaged in a business whose **net** profits were even one-half million dollars annually are not likely to be over particular in the methods of defending the business. The fact that the two and a half million dollars, representing the gross sales, based on the Bicknell figures, comes out of the pockets of those who can least afford it, is but an incident in a sordid business.

HEALTH NEWS.

Issued by the United States Public Health Service.

Great things have small beginnings. A spectacle-maker, Jan Leippersheim by name, living in Holland, invented a crude magnifying glass in 1608. Anton von Leuwenhoek, born in Delft, this day 1632, improved this clumsy toy and evolved a compound microscope which has become the most valuable sanitary tool yet devised by man. That first microscope was as far removed from the high-powered instrument of today as is the modern American from the original caveman. Yet by this faulty means, Leuwenhoek, naturalist, physician and botanist, discovered certain minute bodies which he called "little animals." He made drawings of these and today we know them for those useful friends and malignant enemies of man—bacteria.

We spend our days surrounded by another world, a living world of countless billions, invisible to the naked eye, silent, tireless, destroying the living, consuming the dead, useful in the sciences and arts, yet often followed by a train of sickness, suffering and death. A curious paradox this, yet bacteria are at once the greatest friends and the fiercest foes of every living thing. Not animals, as Leuwenhoek thought, but vegetables, bacteria consist of two classes, those which prey on living things and those which reduce to their original minerals, fluids and gases, every dead thing which they attack. They are of various shapes, round like marbles or straight

like little sticks. They grow in clusters, chains, and in pairs. They are ubiquitous. The dusty air, the earth and its waters, the interior of animals and plants all contain them. They cause the fermentation of foods, they make cheese, they produce disease and some of them when killed and injected into an animal protect it against the very disease which they would have produced if living. Many of them live as harmless creatures in the body of an animal for years, only to kill their host when the opportunity presents. Their study has given birth to a science, bacteriology, one of the foundation stones of public health.

Their mere presence does not necessarily produce disease. Recalling the parable of the sower, some bacteria fall by the wayside, some fall upon stony places, and some fall in good ground and bring forth the fruit of suffering, perhaps of death. A normal, temperate life, free alike from the gluttony of idleness or overwork, the sound mind in the sound body, a cheerful, normal environment, these form the stony places in which bacteria take no root. The depraved appetites of mind and body, the dark and sordid atmosphere of penury, the nerve-racking and strength-undermining trades, these prepare the good ground.

The great weapon against bacteria is cleanliness. The mastery over premature death lies to a great measure in our own hands. Clean persons, clean cities, clean workshops and clean lives are the makers of public health. The United States Public Health Service and other sanitary bodies of this country are gradually bringing these facts home to the general public. In this way cleanliness is becoming more general, and the span of life in America is gradually being lengthened. All of which is largely due to the microscope.

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THE DOCTOR, YESTERDAY, TODAY AND TOMORROW.*

President's Annual Address. Dr. W. B.
Hardman, Commerce.

The doctor is by no means a modern necessity or luxury. His advent was not so sudden and startling as the invention of the telephone, wireless telegraphy or the flying machine. From the beginning of man almost, there was the doctor. Crude and unscientific, yes, but he has groped and plodded through the weary ages to his present state of perfection and imperfection.

Throughout all these centuries, his mistakes have been legion, his reasoning often ridiculous, his therapeutics often grievously criminal. His claim has often been boastful and arrogant, his teachings dogmatic, his conceit inexcusable, and his dignity a mantle of assumption. He has touched every phase of the social sphere from the equator to the pole. In his time he has been considered a conjurer, a witch, a divine messenger and healer, a fakir and impostor, a wise man and a fool. And he has been them all. But from

all these ages of groping and working and blundering, there has been evolved a true science; not a complete science, but a true one. True, because, as one truth is added to another, we begin to know, and to know is to be scientific. Truth is science, and science is law, and law is God.

One of the greatest drawbacks all along the centuries to the real development of medical science has been the tendency of the mind to look down upon the natural as something supernatural. In other words, to look upon sickness in human beings as a curse or punishment sent from God, and not as a result of some natural or reasonable cause. Medicine must be studied as a **true science**, just as chemistry is studied, and real progress means the discovery of real facts.

It is not medical progress to evolve some pleasing theory that will calm nervous minds and lull investigation to sleep. Real medical progress means the addition of one truth to another, and the full solution of all medical problems was no more completed when Koch discovered the germ of tuberculosis than when Harvey discovered the circulation of the blood; or it is no more completed than chemistry was completed when Isaac Newton made his first crude spectroscope, or when

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

Madame Curie discovered radium. But because medical science is not yet complete and surgical skill not yet perfect in every detail, is no reason why the public should discredit their efficiency entirely, for it is through the present methods of investigation, reasoning and research, that medical advance for the future must be made.

The great secret of all progress now is "show me the facts." We are searchers after the truth. Systems and theories and schools of medicine have stood so thick along the pathways from the beginning until now, that their boughs have hidden the truth and impeded progress. Since the great discoveries in Anatomy, Physiology and Chemistry, and the biological conception of diseases, theories and systems have been more or less untenable, but they will crop out as long as thousands of the people are so credulous, and willing to be humbugged. We need no new thoughts or systems to bring progress; we need continued scientific investigation along the present modern lines. It is strange, but true, that even to the present time many people still look in medicine and disease for something of the supernatural, the mystic, the weird, the strange, the obscure, the satanic, the divine. Epidemics of fevers are evidences of God's wrath instead of a result of man's ignorance and filth.

Dirt means disease. The value of hygiene was recognized by John Wesley in his time. He did not blame God for man's shortcomings, nor did he look to God for cures, except through means he considered scientific applications of remedies. He prescribed poultices much oftener than he did prayers, and the application of a warm live puppy to the abdomen in cases which I suppose was a modern appendicitis, to him was more effectual than the laying on of hands. If a man like Wesley should so dissociate medicine and religion, what should we say of the modern so-called "Christian Science," or "New Thought," which, as a method, was familiar to the crude and unlearned a thousand years ago, and which is no more a science or a Christianity now than it was in those olden times of superstition and ignorance?

What I wish to impress upon our minds is a thing we all know, but it is something hard for the people or all the people to grasp, and the matter is vital. It is the mainspring of scientific medicine. Upon it hinges the enlightenment of the public and the rallying around us, and true medical science the sym-

pathy and help of most thinking people. Upon the grounding and rooting of this vital point means the trust of the people and the help of the people to even greater things in the future than the passing of the Medical Practice Act, the Vital Statistics and Public Health bills. I wish to impress that medicine and surgery are real; that they involve a thousand complex, scientific problems, and they are not simple matters of the imagination or a misplaced bone or ligament. That pathology is pathology; that disease is disease; that bugs are bugs; that mosquitoes are mosquitoes; that pneumonia is infection, plus inflammation and consolidated lung tissue, and dirt is dirt, and that hygiene means less dirt and less disease. That there is such a thing as scientific prevention and rational therapeutics, and that the regular medical profession is trying to solve these complex problems in a material, truthful way—in a way any one would undertake to solve a question in chemistry or physics; what is the cause, wherein lies the remedy? The bulk of the medical profession today is trying to learn to be honest with the public. There is no trickery; no card up the sleeves. We do not know it all, but we know some things, and we are trying to learn the rest. We are no medical trust. We are a great medical organization trying to enlighten ourselves and the world.

I wonder what the men and the women of the "New Thought," or our scientific friends of the misplaced bones, do when they encounter a plain old-fashioned case of itch. The imagination there becomes a dread reality, and, indeed, many bones are misplaced as one claws himself through the weary hours of the night. In spite of Christian Science, under such circumstances it would be hard to convince one that he does not itch, and his thoughts would be anything but heavenly. To kill this itch bug, give me two or three good old rubbings of lard and sulphur above all of your prayers or leg-pulling. The only difference in this medical problem and a hundred others, as regards praying for them, or pulling a bone in place, is that the ridiculous position is not quite so well understood, or apparent to the people, but the real situations are just as laughable.

It is not the purpose of this address to raise a tirade against Christian Science or Osteopathy. Both have their limited spheres of usefulness. Each represents simply one therapeutic measure or idea. The mind has

wonderful influence over the body, and every good physician knows he must often treat his patients as much as the disease. The imagination does great things in many cases where there is little real pathology. This is no "New Thought." Massage and exercise, rubbing and vibrating are splendid therapeutic measures, known to the medical profession long before the time of Still. What I am seeking indelibly to impress upon the mind of the medical fraternity is that the science of medicine is a thousand times greater than one little therapeutic idea. An infinitesimal part can never be greater than the whole, and to the true doctor and student of medicine there are no more creeds or theories or systems of medical thought. We are now one united body of men who want only facts. We should never lose sight of the main issues and no little system or class of men with one idea, no one patent medicine, can be paramount, or in the class of the true, broad-minded physician, seeking every fact and every truth connected with the prevention and the cause of diseases, the effect produced, and the scientific application of therapeutics.

Right here let me digress from my written address to refer to an editorial in yesterday morning's paper. The editor takes us to task for our narrowness and selfishness. According to his way of thinking we are a kind of medical trust, so hide-bound and touché, so circumscribed by what we call medical ethics that we discourage medical progress and crush many a budding genius who stands ready and willing to give to the world great discoveries for the healing of the nations (and incidentally the newspapers a big advertisement for telling about it). I know such ideas are still current in some quarters; but the regular medical profession has long since learned that the doctor who comes forth with a flare of trumpets with a great discovery to sell, has nothing to sell but his victims. It takes time and experience and the grouping of cases and trials by many past masters in surgery and medicine to determine the true worth of many things, and the budding genius who is not willing to put his discoveries to such a test is afraid of his shadow. He is looking not for truth, but mercenary gain only. If a discovery is truth, no band of doctors can crush it. If it is truth every true physician will welcome it with joy and proclaim the finder a genius

and write his name as an immortal in the annals of history.

Will the editors who make such accusations of our profession walk with me down the corridors of time and point out to me one single valuable scientific discovery made by the doctors whom we call quacks and whom the editor chooses to call budding geniuses. From the time of Apolonius of Tyana to Lydia E. Pinkham, I know of nothing they have left us. In the eighteenth century when the doctor who had no ethics was so much in favor their secrets all become known, and what are they worth to science now? Parliament was so impressed with one of them that they voted 3,000 pounds for a formula to cure stone in the bladder, and the formula proved to be ground oyster shells, chicken feathers and toe nails. Who is using toe nails for stone in the bladder today?

Yes, Mr. Editor, we are narrow, but we must be narrow in order to be broad. We are selfish, but we must be selfish in order to be humane. We are cruel, cruel to your budding geniuses, but we must be cruel in order to be kind to the world. We are careful, hide-bound, if you please, but we must be careful in order to be safe.

The practitioners of the yesterdays were necessarily narrow because ignorance makes any one narrow and bigoted. It has taken centuries for the doctors and the laity to outgrow this narrowness and ignorance, even if now we consider we have outgrown it. In every phase of disease and medicine, we see still standing and cropping out the teachings and practices of the most primitive physicians. Whatever may have been the details and phases of ancient medicine, it was all essentially akin in tendency; some charm or sorcery of spell or folklore, or psycho-therapy (New Thought), was employed to ward off or annul the influence of some supernatural being. Some supernatural being or evil spirit with wicked intent laid its unmerciful hands upon the unfortunate victims, and the Shaman or the sorcerer, the medicine man or the witch doctor assumed to have some supervisory control over the demon or disease, and with his shouting and ravings and psychotherapeutic maneuvers he aroused in the patient some mental animation which temporarily (or permanently if there was but little the matter) made the one sick of the disease to feel better. To prevent the return of the influence of the supernatural being, some fetish, or amulet was given the individual to

wear. While these things helped much to ease the mind of the sufferers they had but little influence upon the death rate. Some of us may smile as we look back upon the ignorance and superstition of the primitive beings of thousands of years ago, and yet have we not another smile coming when we look upon the present so-called enlightened generation; when we see the people by the thousands gathering about the faith healer or medicine man with his long black hair and cadaverous fingers, as he shouts and raves about his great healing powers or the efficiency of his wonderful medicine? Or as we read of the claims of wonderful life-giving patent medicines, when the directions and claims upon the label soothe and encourage the poor sufferers and calm them as long as they take the medicine with the whiskey and narcotic contained in them. The patent medicines which have the greatest sales, have been proven to be mostly colored and flavored alcohol; and one of the great consumption cures a very delightful tasting syrup of opium. A charm that hushes the nerves and pains to sleep, but what of the awakening? Or shall we smile again as we see the conjurer, who removes warts or stops the flow of blood by driving a pin in an auger hole, or the man who wears his assafoetida or a slick dime around his neck, or a buckeye in his pocket, as a fetish against disease. The idea that the twelve signs of the Zodiac influence certain parts of the body is still strongly believed in by many. Many like beliefs and superstitions have become thoroughly ingrained into the human race through the ages, and these things can be eradicated only by continuous public enlightenment. How much better now are 50 per cent of the people who visit the sick than they were in the Orient during the time of Heroditus, who tells us that the sick were put out in the public market places and every one who passed by was supposed to hear an account of their illness in order to find out if the passersby were ever afflicted in the same way. As they heard the details of the maladies of the sick, some one would speak up: "Ah, yes, I was sick just as you are one time and I used a certain treatment and it cured me; you go and do the same thing and you will get well." Does not this seem very familiar to your ear? Such is only a suggestion of some of the leavings of primitive medicine in the minds and customs of the people. Really, up to the present century, the history of medicine is

the history of human ignorance, fallibility and error. What little was known up to the nineteenth century that lives and is worth while, is due to the arduous work and unstinted devotion of a few great men and minds. Hippocrates, Galen, Sydenham, Harvey, Bright, Addison, Vesalius, Charchot, Hunter, Jenner and a few others like these, left the medical profession a few, real, tangible facts upon which the great men of the last hundred years are founding and evolving a real science of which every humble student of Aesculapius should be proud. It is useless to mention the names of the great thinkers and discoverers in medicine and surgery of the past hundred years. Their names are familiar to you, and the number who have contributed their consecrated mite to this scientific advancement may be counted by the hundreds. Some of them have been martyrs and men as brave as ever faced the cannon's mouth; others, with untiring energy and devotion have experimented, searched and delved for days, weeks, months and years; others have almost accidentally stumbled upon great discoveries until we have reached our present height. And what is this height? Are we at the top rung of the ladder, are we standing upon the pinnacle of the delectable mountains, until, as we look in every direction, we can behold only sunshine and beauty? We are by no means yet in this enviable position. When we think the top rung of the ladder is reached every road leads downward. Out before us still lies the unexplored and unknown. There is still much to do and much to learn. In the much to do, all can take part. There is a great field of work for us in enlightening the public, and securing the social co-operation of mankind in hygiene and preventive medicine, already beginning to bear great fruit. It is gratifying to know that the people are beginning more and more to believe in us in spite of many dissenters, and are looking upon us, not in an attitude of reverential awe or in a spirit of terror, or of doubtful confidence, but as true, scientific individuals who are showing our knowledge by our works.

Right here again let me refer to the editorial in yesterday morning's paper. The editor asks why we do not discuss in our meetings at times subjects that would interest the public, subjects that would be of some practical benefit. "For instance," he says, "why not take up the subject of vacci-

nation and whether it prevents smallpox; or is there any such disease as hydrophobia, or is it simply brought on from fear?" The editor may ask, with as much propriety, some history club, if it is really true that Columbus discovered America, or some alienist if the snakes in delirium tremens are real or imaginary. This editor takes us to task because our hide-bound ethics will not accept the budding geniuses and his advertised so-called discoveries without proof and he himself is not willing to accept the full-blown geniuses of Jenner and Pasteur and the testimony of tens of thousands of physicians and laymen through generations as to the great worth of vaccination. As to hydrophobia, a hog has little imagination and I have seen more than one die of this terrible disease after being bitten by dogs known to be rabid. Our critic seems to be more incredulous even than doctors.

The men of the medical profession today are standing on the firing line; we are in the trenches, and armed with the weapon given to us by the pioneer thinkers and modern discoverers, in the realm of medical science, we await the attack of the enemy, disease. We not only await his attack, but we also vigorously work in the field of prevention that the attack of the enemy may be less frequent and less violent. The battle is not yet won. There is still work to do. We have not yet reached the ultimate goal. In the words of the great Apostle Paul, "We should count not ourselves merely to have apprehended." We can not all be discoverers of great things, but we can all be diligent students of great discoveries. We can all profit by close observation and vital experience, and by so doing we can make the world happier and better.

The doctor owes the world a great debt, and many doctors of today are endeavoring to pay it. Many physicians are trying hard to elevate the profession and make it better educated and more efficient, honest, capable and trustworthy, and more respected and honored by the general public.

This is a laudable undertaking. Let me sound one note that I hope will ring in your ears as long as you live: Each one of you is making the medical profession of Georgia, and what the Medical Profession of Georgia really stands for or amounts to, and the esteem in which it is held by the public, depends upon **you and your conduct**. The public knows but little of Hippocrates, Syden-

ham, or Hunter, to the people in your section, a doctor is what you are, and what you stand for. If the people in your community have no confidence in medicine and the medical profession, it is because the physicians are not living up to the mark. Are the doctors in your community quarrelsome and jealous? Are they penurious and selfish, ignorant and slothful; are they drinkers and dopers; are they untidy in appearance and indecent in their language? Have they poor libraries and filthy offices and rusty instruments? Is their moral reputation bad? If these things are true, is it a wonder that they have not the high esteem of the public? You owe it to yourself, to the people and the medical profession of Georgia, to be the best gentleman and the best doctor you can be under your circumstances. It does not take a whole lot of money to do this. You can be honest, you can be studious, you can be diligent, you can be sober, you can be cleanly without money or very little of it. Laundry bills do not cost much, and no doctor should go more than *two or three weeks* without changing his shirt and collar.

The elevation of the profession means the elevation of the individuals who make it, and this elevation must begin with you, and you, and you and me. I am glad to state that the profession has made great strides in this direction during the last twenty years, and the movement is still forward. What the thinking and progressive doctor of Georgia is seeking today is to have fewer and better doctors. Let the standard be raised in every particular to keep pace with the higher curricula of the colleges. You can elevate the profession by having a full amount of self-esteem and a high regard for your own worth, and if this is properly exhibited, the public will respect it. A doctor should be no lackey horse for every man to ride. This has been the position of the average doctor in the past; it should not be so in the future.

In the attempts to elevate the profession, great strides have been made throughout the world in an educational way. Now, in order to begin the study of medicine one must have a high education, and then must spend four or five years in a Medical College. It is an old saying, "Any fool can make a doctor, but it takes a smart man to make a lawyer." The time is right here upon us when this saying must be reversed. It takes only a little learning to be admitted to the bar, but the man who gets the degree of M. D. from now

on must know something. The credit for this is due mainly to the profession itself. We have lifted ourselves by our boot straps in spite of much opposition from the public and legislators.

You can help to elevate your profession also by being a real doctor and not simply a dispenser of patent and proprietary medicine. This is an evil that has pervaded our ranks beyond all reason, and I am proud to say that our leading men and leading journals are delivering telling blows against this unwonted practice. The physician is not elevating his profession when he swallows every fad and fancy of every enthusiast or scientific fakir. It will take a clear and cautious mind to tell the ring of the false and the true. Be not too hasty or too slow in laying aside the old for the new. Let turtle tubercular serum and twilight sleep get rid of their garments of newspaper notoriety before you herald them as great discoveries, for before the words are out of your mouth they themselves may be taking forever their twilight sleep. Serums have come to stay; they are scientific, but of them we have much more to learn. Keep your mind receptive, but critical, and rely much on judgment and common sense. The progress of medicine means that in the future, as well as in the past, errors will creep in and a hundred will come forward claiming when **one** only holds in his hand the truth.

But if the doctor is due the public great things, the public is due the doctor something. In many ways the people give him his dues. A right living, honest, upright doctor usually has the love, sympathy and unbounded confidence of the people with whom he comes in contact and whom he serves. The bond of friendship existing between the true physician and the families he serves is unique. Yet these ties are not as dear as they were a few decades ago in the days of the old family physician. In many other ways, however, the public does not give the doctor justice. The man who voluntarily chooses medicine now as a profession must be possessed of unusual perseverance; he must have something of the spirit of a martyr and be deeply tinctured with true devotion to science and humanity. The man who launches upon the medical sea of life expecting calm and steady sailing is doomed to disappointment. If he expects riches, they seldom come; if honor, it is as sounding brass. To choose medicine, is to choose voluntarily to shorten

your expectancy of life five years; it is to choose a life of self-sacrifice, of irregular hours and habits. It is to choose a life where one-third to one-half of your work is willingly or unwillingly given to charity or ras-cals.

The life of a physician is trying. Unusual anxiety and uncertainty are at every step. He can never know what minute is his own. He can never lay a plan for recreation, or reading; church service, or business; social engagement, or a pleasant evening at home with his family, that may not be abruptly cut short by a professional call, or a demand for professional consultation. If he be so fortunate as to lay up a little money, he is not permitted to look after its investment as others do. If he rides out to his farm, he is hailed a half dozen times on the way. While he is away, some of his patients whose livers have gone wrong, think he ought to be at his office attending to his business. As he drives back from his farm he is met by some one who wants him to drive by another way to see the sick, and he arrives at home an hour after suppertime to find the supper stale and the cook out of sorts. In the midst of his meal he is interrupted by the doorbell or telephone. Somebody has been waiting for him all this time and must see him at once. (The city physicians know less of this than we who live in the country or small towns, but no doubt the city doctor has troubles of his own.) Tired and weary he casts himself upon the bed for a much-needed night's rest. The wind may be howling, the rain pouring. In the midst of sweet repose there comes a terrible nightmare. The whole nervous system is convulsed. Somebody has grabbed that awful doorbell and almost jerked it off. From sound sleep to startled consciousness, you are transported in an instant. It is this everlasting uncertainty and interruption that wear and tear and grind the nervous system. Work is not so bad, but the uncertainty of the work, the uncertainty of the rest. To be at the command of the public at all times, to bear with the caprices and whims of the sick, to buoy them up and answer all their questions, to hear the doubts and fears of the various members of the family and many meddlesome friends. Does not such a life demand unusual compensation? But the average doctor does not get it. He may earn it, but he does not get it. When we think of these things are we not more willing and should not the public be more willing to ex-

cuse, pity and sympathize with the poor doctor who has fallen into drink and the drug habit. Are not these things, together with the disappointments that come to hundreds of doctors who toil and toil and see their ledgers fill with worthless accounts, while their pockets remain empty, enough to drive some men to dope?

Right here let me speak of the custom of some physicians of doing complimentary practice for men in high positions. Some doctors consider it such an honor to attend congressmen, judges or men of unusual distinction that they never send them a bill. The recompense, they seem to think, is sufficient to have their automobile stand in front of the house of the distinguished patient, or have it stated in the papers what his physician, "Dr. Blank," says in regard to him. This should be humiliating to any physician, and distinguished or so-called great men who accept such favors from doctors and all other people with whom they deal is belittling himself by placing himself in an eleemosynary and unworthy position.

Akin to this and among the list of our complimentary patients, we will not call them charity patients, is usually included ministers of the gospel. I have great respect and love for ministers, but I would have a little more respect for our profession and the ministers, also, if we made them come up and pay their bills as we do any one else. I speak of it not because the profession is losing a great amount on this account, but because the principle is wrong. The ministerial laborer is worthy of his hire and so is the doctor. No other class of men (unless it is the lawyer, and ministers have few law suits and much sickness) contribute to the ministry all their services and pay their pastor's salary, also. The minister seems to expect more of a doctor in pastor's salary than any class of men, and in addition free medical attention for himself and family and ministerial friends, and this attention may run from fifty to several hundred dollars per annum. There is just as much reason in having a farmer pay the minister a stipulated amount and also work in his garden or around the premises free of charge when the minister calls for it. Let the clergy be paid for their services and the doctor who has nothing but services to sell, for his. If, in addition to his regular contributions to church expenses, the doctor wants to give the preacher anything let him give what he wishes and what he

wills out of the fullness of heart and not in service which some ministers, I am sorry to say, hardly thank you for. I could never see the justice of practicing for clergymen free, who receive salaries of one to five thousand dollars per annum, and taking a dollar from a widowed pensioner. "Inasmuch as ye did it unto one of the least (not the greatest) of these my little ones, ye did it unto me."

But what of the doctor tomorrow? At the present rate of progress and broadening ideas, we shall make of him a more ideal physician and citizen than the doctor of today. Thousands of great discoveries lie in store for him. He shall be an educated gentleman with a broadened horizon. He shall not be simply an attendant upon the sick or a prescriber of medicine. He shall be the world's most useful citizen. A citizen in its truest and broadest sense. A citizen who will not sit quietly, meekly and indifferently by as he has in the past, thinking mainly of livers and pills, but a citizen in its widest meaning. He shall be a thinking citizen, and a voting citizen—and not only a voting citizen, but one who will shape the trend of thought and of legislation in many different ways that will be salutary and healthful, both to the physical and moral life of the country, with his clear judgment, skilled hands and sterilized knife; he may heal many a legal sore on our statute books; sores, yes, venerable cancers inherited by generation after generation of voters. With his mind trained to prevention and immunization, he will be the means of putting on our statute books many wholesome and vital laws that will make future generations stronger and better. He will be a student and advocate of eugenics, not so much the popular eugenics of the faddist, but in its highest sense looking to the elimination of hereditary troubles and the perfection of the race. He shall instruct the parents in educating and training their sons and daughters as they grow up. He will show them that clean habits, self-control, and pure thoughts on the part of the young help to bring about clear brains and perfect health. He will hold in his palm the progress of the world. He will be a student of hygiene, of preventive medicine, of social and moral problems, of the children at home and at school. The digging of Panama Canals and the sailing of ships will await his coming. There will be fewer tears and less suffering because of him, for his greatest endeavor shall be to keep the world

well instead of curing its ills. When the doctor of tomorrow, with his magic wand, shall have touched for a few generations the human race, it will then, indeed, be a joy and an inspiration to look into the faces of a man or woman, a boy or a girl—for they will be by the hand of God and the help of science the masterpiece of the world.

I can not bring this address to a close without thanking this Association most heartily for the honor conferred upon me. It is an honor I deeply appreciate, even though circumstances have prevented me from wearing it as worthily as I should. Most of the sickness I have had during a lifetime has come in this associational year. A gentle warning to those aspiring to succeed me. Let me assure this Association, however, that I shall feel as deeply interested in it with the presidency behind me as I did when it was before me.

CHRONIC TONSILLITIS. ADENOIDS.*

By **Stewart R. Roberts, M.Sc., M.D., Professor of Medicine and Clinical Medicine, Atlanta Medical College, Atlanta, Ga.**

Chronic tonsillitis is a persistent infection of the tonsils, which are usually enlarged and accompanied by adenoids in the nasopharynx, with characteristic symptoms.

A school girl of 15 came to have her heart examined on January 21, 1914. A maternal uncle and aunt died of tuberculosis. She was a weak baby, difficult to feed, and had much bowel trouble. An attack of measles was very severe, and was followed at six by a long attack of typhoid, with a weak back afterwards. During childhood she had frequent sore throat, and in the last few years has averaged three attacks every winter. She has suffered much with growing pains and earache. At eight she suffered with a right-sided chorea for a year. In addition to her growing pains the last three winters, rheumatic pains appeared in the right shoulder, elbow and wrist. For the last three years there has been a slight tumor in the front neck, varying in size. She snores, is rarely still, throwing her arms and legs from one side of the bed to the other even in her sleep, and is considered a very nervous girl. She has never menstruated.

She is slender, 5 feet, 4 inches tall, weighs

85 pounds, shoulders wide and rounded, adenoid face, flat chest, moves her fingers and hands, stands on one foot then on the other, taps the chair with her fingers and the floor with her foot. Both lobes of thyroid enlarged. Slight left scoliosis. Mitral gums, high arched palate, tonsils very large, red, covered with a glairy mucous and on pressure exuding foul-smelling white matter. A mass of mucous on pharyngeal wall, and patches of adenoids on throat back. Voice throaty and twangy. Heart apex in fourth space, in one cm. of anterior axillary line. A presystolic thrill followed by a loud closure transmitted to hand. On lying down the mitral closure is loud and synchronous with a loud, shrill whistle passing into a softer murmur. On sitting up the whistle is not heard, but instead a presystolic murmur of stenosis followed in systole by a transmitted murmur.

The pulmonie second is a double shock sound. The liver is one finger down. The supra and infraclavicular spaces are marked, and the lower sternum is depressed slightly. Temperature 99°1, pulse 102. Urine normal. Blood: H, 65 per cent, whites 6,400, differential normal. After two weeks in bed tonsils and adenoids were removed. The right tonsil weighed 6½ gm. Culture gave streptococci, and a blood culture streptococcus viridans. She was given an autogenous vaccine and discharged with a normal temperature and pulse on March 5th. Her movements had practically ceased, and her finger nails grown out for the first time in years. Menstruation for first time in June and again in July. Thyroid smaller.

The adenoid face, mouth breathing and snoring are the usual symptoms. The adenoid face is a combination of stupidity and deformity. The mouth is open, the stare fixed, the outer angle of the eyes drawn out, the external nares small, and the nose appears long and narrow. The face is so distinctive that even public school teachers are able to recognize the type, and there are usually several such children in a lower grade, sluggish in mind and backward in study. The submaxillary and anterior cervical glands are enlarged. Mouth breathing is often noticed by the mother, as it is more prominent during sleep. On account of the obstruction offered by the protruding masses in the upper pharynx, it is easier for the air to pass through the mouth than through the nose. What air does pass through the nose

meets the mouth current at the soft palate, and produces the guttural vibration called snoring. Between snores at night the breathing is loud and rough, interrupted with choking or coughing, presumably due to the accumulation of mucous in the throat, which is swallowed by children. The child is often restless, turns in its sleep, rubs its nose and face, or it may sit up gasping and night terrors occur.

The upper incisors are often prominent and vertical, the hard palate narrowed and high arched, and the enlarged tonsils project into the throat. If the patient gags, the tonsils rotate forward and are clearly seen. The crypts may contain cheesy masses on the point of discharge. The tonsil may be adherent to the pillars, and is called "submerged," though it is really larger than it appears. Pressure on the tonsils may cause matter to appear in the crypts. Mucopurulent matter may collect in the spaces between the tonsils and the pillars. The smaller fibroid tonsils may be infected. On raising the soft palate gently, a mass of mucous appears in the upper pharynx, especially significant in children with enlarged tonsils, as evidence of adenoids. A chronic naso-pharyngeal catarrh is present. Often "scabs" collect in the anterior nares. The material in the crypts may decompose, and with the nasal catarrh cause a bad breath. The mouth of a crypt may be closed and the cheesy matter accumulate, producing a creamy swelling, a tonsillar cyst or wen. Lime salts may be deposited in the cheesy masses lying deep in the crypt, and tonsolith result. Roberson reported one that weighed nearly an ounce.

Adenoids are common in two types. 1. Fat children, with rather small throats. Excess of tonsillar or adenoid tissue causes a proportionate inconvenience. 2. Lean children, who often have enormous tonsils; nearly meeting in the mid-line. I have seen them meet and push the uvula forward in the advanced cases in the acute attacks. Indirect effects involve the voice, the hearing, deformities of the chest, a dulling of the mind, and makes worse, or produces other more serious diseases.

The voice tends to be throaty or nasal, or a guttural twang in advanced cases. The child talks "through his nose." The tonsils seem to cause the throaty element and the adenoids the nasal. Enunciation is poor and intonation even rasping, and many of the un-

pleasant voices in adults are doubtless due to neglected tonsils and adenoids in childhood. The pronunciation of the nasal consonants l, m, n, and o is indistinct. Stammering is rare. Removal of the tonsils never impairs the voice, but rather improves it.

Earache is common and impaired hearing, "throat deafness," often occurs. Extension of the inflammation into the Eustachian tube produces a salpingitis, and often earache, especially if an otitis media result from upward extension. The inflammation may be so severe as to cause an exudation of serum into the tube and middle air, with pain, throbbing and bulging of the tympanic membrane. Normally the membrana tympana moves in and out rhythmically, and the Eustachian tube opens and the membrane retracts, dulling the hearing, during swallowing. The tympanic cavity is thus ventilated. The Eustachian openings may be obstructed by mucous, narrowed by excess of inflammation or pressure from the adenoids. Stagnation of air in the middle ear results, retraction of the membrane and even its adherence to the inner wall of the cavity. Taste and smell may be impaired. During eating, fits of coughing may occur, due to difficulty in swallowing.

Deformities of the chest occur. The exact mechanical influences at work have been much discussed. "The order of events is first nasal or naso-pharyngeal obstruction, then contracted chest, kyphosis, and scoliosis." (Tubby.) The shoulder may be lower on the side opposite the lateral curvature. Angularities tend to predominate over normal contours. There are three associated thoracic types: 1. Senile chest, in which the shoulders are round and stooped, the scapulae flared out, head held forward, chest flat and plank like, clavicles prominent. The abdomen may bulge as in enteroptosis. It is an old man's stoop in a child. 2. Pigeon breast, in which the upper sternum is prominent, angulated forward at the first joint, and pulling the ribs with it, increases the antero-posterior diameter and decreases the lateral diameter. Below the mammae and at the junction of the middle and lower third of the chest there is a circular groove (Harrison's Groove) due to the pull of the increased contractions of the diaphragm in its efforts to compensate for the obstruction on the pharynx. 3. Funnel chest or excavated chest, in which the lower sternum and the attached ribs are depressed in the form of

a circular cavity. The cobbler's chest is a depression lower down at the ensiform. The depression varies much in depth and is seen in all stages. Congenital in certain cases, it is acquired at times in association with adenoids and tonsils. The deepest depression I have ever seen was in a woman of 28, who had suffered with adenoids and enlarged tonsils since childhood, and who at 27 developed tuberculosis.

Frequent attacks of tonsillitis cause hypertrophy, and the latter predisposes to acute tonsillitis, colds and coughs. The continued dropping of mucous from the pharynx and the foul breath tends to interfere with the appetite and digestion. The angular symptoms in measles, scarlet fever and the respiratory diseases are intensified and pharyngitis is more frequent. The child is more liable to diphtheria and to nausea and vomiting. There is a lack of resistance to disease and the wear of life, and growth is inevitably lessened. Most important of all, infectious arthritis, rheumatism, chorea and endocarditis may result, and even cases of acute nephritis are occasionally reported. Headache, habit spasm, enuresis, anemia, and even asthma may occur. Chronic tonsillitis is more than a local disease.

Of 3,304 children studied by Ayres, 659 had hypertrophied tonsils, and 343 adenoids. The majority of these were in the third, fourth and fifth grades. The condition existed in 26 per cent of the dull children and in only 12 per cent of the bright ones. Children suffering from adenoids make 14 per cent, and from tonsils 9 per cent less progress than normal children. The children look listless and helpless, are indifferent in their studies, hard to teach, and constitute many of the backward children of the schools. They do not concentrate easily or long, memory is poor, the mind does not grasp facts, and the child lags mentally and physically.

As a rule, the tonsil is hypertrophied and infected. There is a true hypertrophy of the three constituent tissues—mucous membrane, lymphoid, fibrous stroma. In the large soft tonsil the lymphoid tissue is chiefly increased, and in the small, firm tonsil the stroma. The former weighs from three to seven grammes, and the latter cuts with a fibrous feel. The capacity of the crypts is increased and contains the foul, cheesy masses composed of bacteria, cells, food elements and rarely, the buccal ameba. Streptococci and staphylococci may be regarded as normal

inhabitants of the mouth, and are frequently found in the crypts, the pneumococcus and micrococcus catarrhalis less frequently. Tubercular tonsils and adenoids occur. The tonsils drain into the cervical lymph glands, and tubercular adenitis is usually preceded by a tubercular tonsil. By ulceration of the lining of the crypts, bacteria and their toxins gain entrance to the circulation and produce different infections. Extracts of tonsils are acutely toxic for animals similar to that of anaphylatoxin, and those associated with hemolytic streptococci are most toxic. (Dick and Burmeister.)

Adenoids occupy the vault and posterior walls of the pharynx, and vary in size from pin head to a large bean. They form large soft masses with a feel like worms, lobulated and irregular, or a flat, firmer growth. They are covered with ciliated epithelium, have no crypts, and are formed of lymphoid tissue in fibrous stroma. They are red and very vascular. Springing from the mucous membrane they are apt to be more abundant in the region of the pharyngeal tonsil, where they narrow the posterior nares, and in the fossa of Rosenmüller, in the region of the Eustachian tubes. In adults atrophy is marked, and an added firmness due to the increase of the fibrous stroma.

Examination of the throat should be routine. The enlarged tonsils are readily seen. The size, attachment to the pillars, open crypts, and cheesy matter are evident on inspection. It is best to use a tongue depressor and at the same time the patient says "ah." The pharynx in a good light is clear, and gagging throws the tonsils forward. Diagnosis of adenoids is more difficult. The adenoid face, changes in the chest, history of snoring and choking are of aid. Hypertrophy of the tonsils may exist without adenoids. Masses of adenoids in the vault and only slight tonsillar hypertrophy is frequent. However, with very large tonsils, adenoids are usually present. The soft palate is relaxed with adenoids. Absolute diagnosis is made by hooking the index finger behind the palate and feeling the adenoids on the vault and back of the pharynx.

The condition is not cured by drugs, though they may be of service after operation. There are two classes of cases. 1. Borderland cases, in which hypertrophy of the tonsillar and adenoid tissue is slight, but noticeable, and there are no constitutional or sleep symptoms. The child is of normal

height, weight and mentally active. Such children should be under the observation of the physician. If hypertrophy becomes marked, or general symptoms arise, operation should be advised. 2. Cases of well marked hypertrophy with general symptoms. It is usually useless to compromise with any treatment less radical than an operation. If this is refused, or if in rare cases the condition of the child render this unwise, the crypts may be treated with iodine in 25 per cent solution, with argyrol in fresh solution, or with nitrate of silver. Better than these is the galvano cautery. Either, however, is a poor substitute for the real cure offered by an operation. Even in the cases of valvular disease, anemia, or after chorea or rheumatism, there is but little danger if ether be administered by the open method, and the operator be skillful, rapid, and careful of hemorrhage. Enucleation of the tonsils or tonsillectomy should be done; not the old and unsatisfactory "clipping" or "tonsillotomy." The condition of status lymphaticus, in which the hypertrophy of the tonsils and adenoids is part of a systemic hypertrophy of the thymus, spleen, lymph glands, and Peyer's patches should be borne in mind. If present, operation should be avoided as death during anesthesia occurs. The lymph glands and thymus should be examined before operation, the former by palpation, the latter by percussio.

The condition should be explained to the parent. I find that showing them the enlarged tonsils often makes them anxious for the operation. The chief danger is the refusal to permit operation, and allowing the condition to continue. Without operation the child is a candidate for one or more of the diseases of the rheumatic group, and the results of adenoids. After operation the child breathes and sleeps better, and growth and improvement are rapid. The adenoids as a rule, if entirely removed, do not grow again. The operator should be careful to remove the mthoroughly in the fossa of Rosenmuller. Post-operative indications involve: 1. Polterization for several weeks if the hearing has been impaired. 2. Twelve deep full breaths through the nose in fresh air night and morning for three months. 3. Chin strap during sleep if the mouth drop continues. 4. Tonics as syrup of the iodide of iron, Fowler's solution, or cod liver oil in the thin and frail. 5. Fresh air and outdoor play.

Distribution—Chronic tonsillitis is the most frequent of the chronic mouth infections in children, as porrhea is in adults. In an examination of 15,139 Atlanta school children, Stephens found 1,459 with hypertrophied tonsils and 1,268 with adenoids. More males than females are affected and the condition seems to be characteristic of certain families. In many cases atrophy begins at puberty. The majority of children have adenoids and in about 8 per cent the condition is advanced enough to warrant operation. In the mildest cases it is an innocent affection, causing no aggressive symptoms and cured by age. In others it may mar the child for life. It is probably more frequent in children reared in close, warm houses. Czermak first saw adenoids in 1860, and W. Meyer, of Copenhagen, described them in 1868 under the name of "adenoid vegetations."

DISCUSSION ON THE PAPER OF DR. ROBERTS.

Dr. E. E. Murphey, Augusta: Dr. Roberts' paper impresses me as being particularly valuable. One might believe in this age and time, with the amount of attention which we have paid to children's diseases and to the proper care of the throats of children and their noses, it might hardly be necessary for any one to come before this Association and discuss the question of tonsil removal or tonsil care. Perhaps, if one approaches this problem from the point of view of a throat specialist, it might be well taken.

I want to look at this problem from the point of view of the internist. The two things Dr. Roberts referred to are the occurrence of rheumatism or growing pains in children, and the occurrence of endocarditis in children as a part of the symptom—complex, having its origin in a great many cases of chronic infection of the tonsils, and this is something which ought to concern all of us. We do not pay sufficient attention to infections of this sort. To make my point of view a little more clear, I take the attitude that there is no such thing as rheumatism or as growing pains in children. What we have in children when they complain of these things is an acute infectious polyarthritis, due to some focal lesion, and in the vast majority of cases the focal lesion will be found in the tonsils. There may be a persistent pus infection from the streptococcus

or staphylococcus, which is taken up and localizes itself elsewhere. We ought to be careful never to minimize a child's complaint of growing pains. Most of the cases of endocarditis in my hands can be traced back through the gradual development of growing pains, rheumatic pains, tonsillitis. If the condition had been recognized in the beginning, the tonsils extirpated, the focal infection corrected, the endocarditis need not have occurred, and would never have occurred and for that point, if for no other, this paper is a very valuable one, and I am glad that Dr. Roberts brought it to our attention.

Dr. E. Bates Block, Atlanta: I want to express my appreciation of Dr. Roberts' paper, as I think he has presented a very careful study of these cases which he has reported to us today.

I, however, feel obliged to differ somewhat from him in the interpretation which we should place upon the supposed etiological relation of the tonsil to rheumatism. We do not name diseases, as a rule, after the germs which cause them. Sometimes we do, but as a rule we do not. We name diseases after the part of the body which becomes infected by that particular germ. For instance, if the typhoid bacillus infects the Peyer's patches, the lymph glands of the abdominal cavity, we speak of typhoid fever. If the typhoid bacillus involves the meninges of the brain and produces a meningitis, we speak then of typhoid meningitis. If it involves the bones, we may speak of it as an osteomyelitis, to which we may attach the term typhoid, and if it involves the bladder we speak of it as a cystitis. It is exactly the same for the bacteria. If a diplococcus or streptococcus involves the tonsil, we speak of it as a tonsillitis. If it involves the endocardium, we speak of it as an endocarditis, and if it involves the meninges of the brain we have a chorea. If it involves the tissues of the skin we have a subcutaneous fibrous nodule, and we speak of it as a subcutaneous fibrous nodule. If it involves the pericardium, we have a pericarditis, and if it involves the joints we speak of it as a rheumatic arthritis, or an acute inflammatory rheumatism. It is not that the tonsillitis causes rheumatism, pericarditis, endocarditis, pleurisy, chorea and arthritis, but all of these are due to the same germ. Tonsillitis is not the cause of the chorea, but it is due to some germ that causes it. Now, the germs which cause rheumatism

may get into a certain part of the body. That may happen to be the tonsils, and there it may have a rendezvous or nesting place and may from time to time invade the joints and produce these other rheumatic manifestations, or they may be situated in the subcutaneous fibrous nodule just as well. In that case it is the subcutaneous fibrous nodule which should be removed, and until it is removed there will be from time to time invasions of the other organs of the body by this diplo-streptococcus of Boynton and Paine, and other attacks of rheumatism and other invasions of different organs will be brought about.

Dr. R. P. Cox, Rome: Speaking of the tonsils, they are the gateway or the point of attack. They also may be regarded as a point of defense. We need not necessarily have a large tonsil in order to cause trouble, because a small one can interfere very much with nasal breathing. With obstructions in the nose and everywhere people are much affected by starvation for oxygen, because we live not by bread alone, but equally by the oxygen that we take into the lungs to complete their metabolism.

There are two points to be considered in connection with this subject, and one is starvation for oxygen interfering with metabolism. On the other hand, absorption of the toxins from the inflamed tonsil or whatever other condition may be present. These are two factors to be taken into consideration. From examinations made in four or five of the larger cities of Georgia and used now for purposes of this campaign of education about the conservation of the eyes, etc., the school inspection of children, it has been estimated that there are 20,000,000 school children in the United States, and 60 per cent. of these 20,000,000 are seriously handicapped by some defect in hearing, in breathing mostly. By far the larger per cent. of them have interference with breathing on account of adenoids or obstruction in the nose or on account of some pathologic condition of the tonsils. Thirty per cent. of these 20,000,000 school children are so far retarded by these handicaps that they are two years or more behind their natural grades. Ninety per cent. of the school children are not really dull, but are kept and made artificially dull by these obstructions, which can be easily removed.

In Philadelphia they have a clinic where they cut the badness, so to speak, out of these

cases by taking out the tonsils and treating the children for whatever condition they find, such as curvature of the spine or what not.

Dr. C. C. Harrold, Macon: The point I want to bring out in connection with this subject is this: That we must not think all of these cases of rheumatic troubles from the tonsils are in children. We see the same conditions in adults. This discussion has practically been limited to children, but the same thing is true of adults.

I have been very much interested in Rosenow's work in Chicago because a brother of mine has been through the mill of these rheumatic troubles for a number of years and he has consulted some of the best men in America. For a while he was under the treatment of Dr. Janeway, then under the care of Dr. McCrae, of the Johns Hopkins Hospital, and lately he has been under the treatment of Rosenow. Rosenow has finally insisted that the seat of the original infection was the tonsils, and he has had vaccines made from cultures and has injected them and he is getting decidedly better. He has had practically no trouble since he has been well under the influence of these vaccines.

Dr. W. Lapat, Savannah: The greatest trouble we have with the tonsillitis question is that we can not do much animal experimentation, as there are so few animals that have tonsils. Dr. Wood has done a great deal of tonsil work, and he has taken a culture and spread it on the tonsil of the pig, and has been able to demonstrate in a few hours streptococci in the lymph glands.

There is another important point in connection with tonsillar work that I would like to mention. I refer to the cases where we get a small tonsil in the superior fossa between the pillars. It is these that cause harm, and any infection is liable to cause more harm than in the cases reported by Dr. Roberts.

Dr. Alexander Dawson, Atlanta: The point made by the previous speaker is a very important one. Any one can recognize a gross condition in tonsils, but the small and submerged tonsils are significant of trouble.

I wish to commend the paper. The doctor has sounded a keynote in medicine. Reservedly, I would say that the time is at hand when our chapters on etiology of diseases must be largely rewritten, and in this particular field I am in entire accord with Dr.

Murphey when he says that there is no such thing as rheumatism in children. Reservedly, there is no such thing as acute articular rheumatism. There is no such thing as chorea. There is no such thing as primary endocarditis, and there is no such thing as primary pericarditis. When the chapter on etiology shall have been rewritten, that will have been greatly simplified and summed up under one head, and that is medical sepsis—sepsis or absorption of organisms or their products from the little focal area in the body. Surgical sepsis is accompanied by heat, pain, redness, swelling, perhaps pus. Medical sepsis may be obscure and hidden, but it is a sepsis just the same. The parent of this whole family of diseases is a focal infection somewhere. Ninety per cent. of all cases of acute articular rheumatism will have a focus of infection somewhere in the tonsil or tonsillar tissue.

Stephen MacKenzie, of London, England, took a series of over 2,000 cases of acute articular rheumatism and found that in one-third of them there were evidences of tonsillitis. In another third of the cases they had objective evidences of tonsillitis, and I am morally certain that had the tonsils been enucleated and cut into sections in the center of the tonsils he would have been able to account for quite a per cent more.

The last five years I have demonstrated in every single case of chorea a point or focus of absorption. The causes are not manifold. The etiology is not obscure, but it behooves us to look closely in the buccal cavity and there we will be rewarded.

There are two lines of treatment, one of which is the eradication of the focus of infection, as is done by surgeons, and the other is the administration of the appropriate anti-rheumatic remedies. In many cases of rheumatism the trouble will be long continued.

Dr. Block, I think, presumes when he predicates that the organism of Boynton and Paine is the organism that is most commonly found, but it does not exist in every case. Rheumatism can come from a variety of organisms, and that is why blood cultures will not show a definite finding of the specific organisms at all times.

Dr. Roberts (closing): I appreciate very much these very kind and undeserved words. To boil the matter down to a practical point, I will say that chronic tonsillitis is not a local disease itself. Primarily it is a local dis-

ease, and we look to the nose and throat specialists for relief. I know that most of the cases of chorea, endocarditis and rheumatism occur in children or adults who have had frequent attacks of acute tonsillitis and persistent chronic tonsillitis, and after the tonsils are removed they get better.

Furthermore, I hope I may be clearly understood in this statement, that probably one child in every eight should have the tonsils and adenoids removed. The throat may not give larger percentages, but I think conservatively one child in every eight should have the tonsils and adenoids removed. These cases are often the children of poor parents, and it seems to me in every center of population, in every town which boasts of a man with surgical tendencies, who is most proficient in the removal of tonsils and adenoids, this surgical work should be done. If there should not be a skilled surgeon in this or that particular town the general practitioner should take a month off in order to acquire the technic of removing tonsils and adenoids. I know I am treading on dangerous ground, but all children can not go to Macon or to Augusta or Savannah or Atlanta, and what we are after is for each of these children to be well and stay well, and there is no reason why men of surgical ability who remove the appendix or can do an amputation or a resection of the intestine should not make themselves absolutely proficient in their immediate neighborhood and do all of this work.

I visited a friend of mine in a South Georgia town a month ago, and he took me around to see some of his interesting cases. He showed me three cases. One was the most remarkable heart case I have ever seen. The heart bulged to such an extent that it pushed the sternum out, and this was due to chronic tonsillitis.

There are men in this town who can remove tonsils and adenoids as well as anybody can remove them, but they have not taken the matter up. It is a neglected field on the part of the surgeon, and it is singular that surgeons should neglect anything of a surgical nature. (Laughter.) Nevertheless, even surgeons in Georgia occasionally do it. I do not think in the larger centers of population, where there are many eye, ear, nose and throat men, surgeons ought to do the work. In the centers of population it is the duty we owe to the poorer children. There is only one cure for persistent infection of the ton-

sils, and that is surgery. It is not a disease that is cured by drugs. It is not a disease that is cured by tonsillotomy or by clipping the tonsils, but it is a disease which is only cured by the complete enucleation of the tonsils—a tonsilleectomy.

Some years ago I had the privilege of examining the Atlanta school children for a year, and practically every one of the children had tonsillotomy done; that is, cutting or clipping of the tonsil, was made worse. It would have been better had that operation not been done. So the only treatment is a complete enucleation, and a child in Flat Rock, Ga., is just as much entitled to such surgery as a child in Macon or Atlanta, and I am for Flat Rock. (Applause.)

THE TREATMENT OF CHRONIC INTERSTITIAL NEPHRITIS.*

By Thomas D. Coleman, A.M., M.D.

It has been estimated that Bright's Disease and other kidney affections cost us 90,000 lives annually. It is probable that it is not of more frequent occurrence now than in former times; indeed, we have every reason to believe that it is not nearly so prevalent. This deduction is warranted by the more general education of the masses into the nature of disease, and our more wholesome modes of living; to more intelligent medical men and better general care of the sick—both the indigent and the well-to-do; to improved municipal sanitation, more generous philanthropy and other causes. Our registration methods are more accurate, incomplete as they may still be, and we possess a more intimate knowledge of the world and the individuals who people it. While all this is quite true, it is also true that much is to be desired concerning the nature and cure of Bright's Disease, or Nephritis, which may conveniently be divided into two main subdivisions, viz.: Acute and Chronic Nephritis; and the latter variety may be divided into Chronic Diffuse or Parenchymatous, and Chronic Interstitial Nephritis; it being understood that the two latter conditions are not always, perhaps rarely, are sharply defined, and that both conditions are often present in the same case at the same time. The preponderating symptoms in the clinical picture cause us to classify the one as par-

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

enchymatous; the other as Interstitial. The time at my disposal has caused me to limit our consideration for the present to the management of Chronic Interstitial Nephritis. In this you will recall that there is a development of interstitial connective tissue and a denudation or loss of the secretory cells of the kidneys. This is evidenced clinically by a chain of symptoms that are more or less characteristic. They come on insidiously with polyuria, a small amount of albumin, a few hyalin and granular castes, and other changes in the urine. The heart and arteries usually are affected with the development of myocarditis and hypertrophy of the heart, and sclerosis and atherma of the arteries; there are also gastro-enteric changes, loss of appetite, weight and various abnormal nervous phenomena. There is perhaps no single disease which requires more sagacity and watchful care on the part of the physician, closer co-operation on the part of the patient and which, though it does not promise a cure, yet does hold out in a large percentage of cases the prospect of prolonged life and a fair degree of comfort and usefulness to those willing to abide by their limitations. Indeed, Herrick has very truly observed that if one will take the statistics of his office consultation room and his private practice he will find that Chronic Interstitial Nephritis is not necessarily inconsistent with years of comfort, happiness and usefulness or even with ripe old age. And he learns that while it is wrong to promise a cure to the individual in whom we find early the urinary and cardiac signs of that disease, it is just as wrong to hold out to him the gloomy prospect of a complete invalidism and an early demise. Little opportunity is afforded the physician in the direction of actual prophylaxis aside from the general dictum of sane living, as the disease, in the vast majority of cases, has existed for a long time before medical aid is sought and then it is not infrequently discovered accidentally, as it were. With the disease well established constant medical direction should be followed. The bodily wastes are eliminated by means of the kidneys, the intestines, the skin and the lungs. When the functional activity of the kidneys, the main organs of excretion, is interfered with, the auxiliary organs of excretion must be stimulated to greater than normal activity. When the kidneys are throwing off sufficient waste products and the heart and circulatory apparatus are equal

to their load all that may be necessary is to eliminate as far as may be the cause of the renal insufficiency, e. g., any focus of infection, chemical poison or vice of living. In many instances attention to the patient's diet, restricting or eliminating the proteid foods, keeping the bowels regulated, seeing to it that the skin performs its function, and diminishing business activity, banishing worry and care as far as possible—in short running at second or low speed, to make use of automobile phraseology, will be sufficient without the administration of drugs. Diet is important and one can err in this quite as far as in the administration of drugs. In my opinion many patients are harmed in a futile effort to make the intestinal tract accomplish what it is unequal to—what it is not fitted, either structurally or functionally, to do. In other words the diet is too restricted or unwisely directed, too great purgation is sometimes resorted to in an effort to supplement renal inactivity, the results being the development of secondary anaemia, gastro-intestinal indigestion, with additional burdening of the already insufficient kidneys by toxic products, and needless even harmful weakening of the body.

It is just as irrational as unscientific to expect an engine to travel a specified number of miles with insufficient fuel and forced draft as it is for a nephritic to finish the rational expectancy in his life's journey under such circumstances. At least 3,000 calories daily are essential for a normal individual of average size in order to make good his wastes—to keep himself in a state of equilibrium. More than this is sometimes necessary when disease is present, digestion is impaired, and absorption interfered with. Milk is the simplest form of food and it is wise to employ it in the exacerbations of the disease, in certain cases, to the exclusion of all other food; but it is not an economic or wise exclusive diet for an adult. It should be supplemented by other articles of food, such e. g., as eggs, cream, cereals, fresh fruit, fresh vegetables, bread and meat in moderation, the amount of protein totaling 80 to 100 gms. daily. In the matter of meats, it is better to reduce them to a minimum, and it is wise to interdict fresh pork and veal; but I am in accord with clinicians who hold that the sharp line between white and dark meats is largely artificial and unscientific. Salt free diet. This is beautiful in theory, but often is not only unsatisfactory

and disappointing clinically, but a needless punishment of the patient.

The circulatory system should also be closely studied, and here again sagacity in the interpretation of phenomena may determine the relative recovery, or speedy death of a patient. Blood pressure! The very words are a bugaboo. Not only to the laity, but to many physicians as well. Positive blood pressure is essential to all our vital processes, but comfortable days and long life are compatible with relatively high blood pressure at times, and in those cases reduction of blood pressure is both unwise and unscientific. When the arteries have become degenerated a higher blood pressure is necessary for the proper nutrition of the tissues than under normal conditions. It is only when the blood pressure reaches the point that it puts too great burden on the secretory cells or too much strain on the diseased vessel walls bringing about undue stretching or rupture that we must seek to reduce it. So that in certain cases the reduction of blood pressure may be even harmful. When the blood pressure is excessive and in this each case must be studied individually, it may be reduced in one or more or several ways according to necessities of the case. It may be induced by dieting, even to the extent of starvation for several days, by blood-letting, withdrawing one-half pint to a pint of blood, and filling volume to the needful extent by a saline solution; by purgation e. g., the administration of calomel in single, or oft-repeated small doses followed by a saline purge e. g. Epsom or Rochelle Salts, Sulphate of Magnesium, or some of the mineral waters, as Hathorne, Pluto, Hunyadi Yanos, Frederichschal, etc. In some instances when there is paresis of the intestinal musculature, cathartic action may be aided by the use of enemata. When the enemata usually employed fail to act, an enema of alum (one ounce of alum to one pint of water) will bring about a prompt and copious result. Not only in this condition, but in others, it will keep many patients from the operating table, and is a valuable therapeutic measure. Blood pressure may be diminished by baths, and diaphoresis. To this end hot baths of from 105° to 107° F. for 10 to 15 minutes, after which patient is wrapped in blankets and allowed to sweat for 30 minutes or more and afterwards he is rubbed down with alcohol. Diaphoresis may be induced by the external application of dry heat: e. g.

by covering with blankets and surrounding the patient with hot water bottles or hot bricks. Another method is by heat applied under blankets and through an ordinary gutter pipe by means of an alcohol or kerosene lamp. A more refined method is by means of the electric bath. In this dry heat is obtained (not electricity) from numerous electric bulbs in a cabinet so that the patient may take the bath either reclining or sitting. In all forms of diaphoresis the heart must be carefully watched. The Nauheim bath is also an important therapeutic agent in the reduction of blood pressure. It is not through high temperature, but the relief to the circulation is gotten through the explosion of little bubbles of gas against the skin, thus dilating the capillaries in the skin as a spunk with the hand or massage would do, and by increasing the diameter of the capillaries diminishing the work of the heart, thus reducing blood pressure. The activity of the kidneys, aside from the measures mentioned, may be increased by certain drugs and sclerotic change in the arteries checked or favorably influenced. All so-called diuretics depend for their effects on increased flow of blood, especially in the kidneys. If we knew one that only affected the pressure in the kidneys it would be ideal, but here again is called into play the intelligence and experience of the physician. It is desirable to put on enough pressure to enable the secreting cells in the kidney tubules to work properly, but not enough to cause an artery in the brain to break. This is at times one of the finest decisions to be made in medicine, and it is not always accurately obtainable.

No instrument of precision can measure the point and the only approximation to a guide rests in the clinical ability and knowledge of the physician. I have seen cases where a blood pressure of 180 MM or more still would justify further stimulation of the failing heart. I have seen other cases where a much less pressure would negative it. In such cases only experience can guide one, and even this is at times grievously disappointing. It is just as nice a problem to tell when to increase blood pressure as it is when to reduce tension. Aside from reducing blood pressure by diet, by purgation, by baths, by sweating, a number of drugs effect this in greater or less degree and for varying periods of time. Among them nitro-glycerine and the nitrites stand well at the top of the list.

To get the effect from nitro-glycerine it must be given frequently and in relatively large doses, gr. 1-100 to gr. 1-50 every two or three hours, reducing the dose when headache or flushing of the skin ensues. The sphygmomaneter and the trained touch of the examiner's finger should also aid in determining the proper tension for the case. The nitrites are not so evanescent in effect and sordium nitrite may be given in one to three-grain doses and repeated every four to six hours. Iodide of Potassium, Sodium or Strontium may be given with lasting benefit in small doses throughout months or years. When the heart needs more assistance because of the increased resistance, either local or general in the arteries. Digitalis may be used to advantage. Of the various preparations of Digitalis, the Tincture is perhaps the most satisfactory and reliable, and in some cases should be pushed to its physiological limit, the average dose being 10 to 15 drops. The Infusion of Digitalis in some cases, in doses of one-half ounce, sometimes yields more satisfactory results than the tincture. Didipuratum is also a preparation which has been proven very efficient. When the stomach is irritable and nausea and vomiting are present Digitaline may be given hypodermically. Digitalin has apparently given unsatisfactory results in my hands. When Digitalis is not well tolerated, Strophanthum may be substituted. When either of these disagree or when they prove insufficient, Citrate Caffeine, or Theocin, etc., may be substituted or given in combination with them. When the heart is failing it may be necessary to enjoin absolute rest and to employ all the cardiac and vascular aids in the Pharmacopia. Finally when symptoms of uraemia develop it may be necessary to use purgation, sweating, hot packs, baths, diuretics and cardiac stimulants in the effort to eliminate the poison and prevent disaster.

Finally it should be borne in mind that a mild climate is an adjunct to treatment in all cases and is of value in conjunction with the therapeutic measures mentioned above in lengthening the span of life for these sufferers.

DISCUSSION ON THE PAPER OF DR. COLEMAN.

Dr. Cartledge, Atlanta: I think that a great many of the suggestions which came up in connection with the discussion on tonsillitis

would occur to every one in discussing nephritis or in rheumatism. One of the commonest end results of tonsillitis or any other infection is a nephritis. We know that every rheumatic condition is a result of an infection. It is quite true that there are no idiopathic nephritic cases. Every effect has a cause, and I feel we are careless in treating cases of nephritis. No case of nephritis needs treatment as an emergency, but all cases of nephritis need treatment. Of course, in the emergency cases we recommend baths and elimination, etc., but to give niter or to give any other chemical diuretic except water is fallacious treatment. There is a cause for the infection. It may be in the tonsil, or it may be in Riggs' disease, and there is one of the causes for rheumatism.

With reference to syphilis, you have got to hunt for it, but with the enormous prevalence of syphilis we overlook it constantly, and when we can not find the cause for certain disturbances or trouble, we should always look for that. It does not matter what the history is, if you can not find syphilis, treat them for it anyway, and the result will prove your case sometimes. So, I say, there are so many things we have got to look out for causes.

The doctor spoke about reducing blood pressure. I believe in Nature's suggestion, and I hesitate to interfere with night sweats in tubercular cases. I would not fear apoplectic paralysis except there be source of infection. In the acute condition I would depend upon enormous amounts of water. Diaphoresis and elimination may not stop the source of infection, but they do a good deal toward eliminating it.

I would like to say a word or two in regard to Riggs' disease, or pyorrhea. I find it at home, where we have a specialist. We overlook these causes of the rheumatism, which I say is Bright's disease, or going to be.

Speaking of a salt-free diet, it is purely in the embarrassment of the kidney action. To my mind salt is not a kidney irritant, but a stimulant. There is nothing more helpful to metabolism than salt, and we only withdraw salt where we have to on account of an emergency.

Dr. E. C. Thrash, Atlanta: Diseases of the blood vessels, which always accompany these kidney lesions, are so prevalent that we always have them with us, and every patient at 50 years of age will have infiltration into

the vessels and physiological structures of his kidneys, whatever triteness to it there may be, and we need to give careful consideration to these cases the same as we do to other diseases like tuberculosis. We argue pro and con as to whether a chronic interstitial nephritis tends to arteriosclerosis, or later produces nephritis and dilatation of the heart, as well as hypertrophy of the heart and so on, but unquestionably the same toxins that produce the laying down of fibrous tissue in blood vessels produce the same process in the kidneys, and that process will produce hypertrophy and dilatation of the heart, and you get a vicious circle which is almost impossible to control, and high blood pressure is one of the consequences of this vicious condition, and it is absolutely a prerequisite for the maintenance of proper metabolism, and it is a mistake for us to attempt to reduce the blood pressure. There is nothing that alarms me more in these conditions than to see a man constantly attempting to lower the blood pressure. I know I am getting conditions which will quite soon bring about the end. I know there has been sufficient infiltration of fibrous tissue to close up my vessels to such an extent that the heart is becoming overloaded, and I am getting myocardial weakness which will soon terminate in death.

As to the salt diet, I think it is important that it should be lessened. My opinion is that the whole basis of cell activity depends upon specific gravity. The specific gravity of the fluids and the cells and intracellular material carry on metabolic processes. We could not have an interchange of fluids within a cell unless there was a difference in specific gravity. That being the case, it is necessary for us to reduce the salt in order to get results, because in doing that we produce a condition whereby we will get a fluid of lower specific gravity from Bowman's capsule, and this being a lower specific gravity will naturally invite osmosis of solids in the serum of the fluid as it flows out. That is the most reasonable theory as to why lessening of the salt does good.

I agree with Dr. Coleman in not withdrawing salt entirely, because it brings about suffering that is intolerable to the patient. You can withdraw the sugar and substitute sacarine. I have found generally in treating these cases, if the blood pressure gets exceedingly high, you want to do only two things of special benefit, and that is to bleed

and deplete with salines. These salines will produce osmosis into the intestinal tract; they will deplete as bleeding will, but if you have a crisis, where you must do something immediately, there is nothing that gives so much relief as withdrawing blood quite freely.

It is a mistake to use remedies to lessen the power of the heart, and we cannot reduce the blood pressure when it takes force to drive the blood through the narrow constricted tubes. The only thing to reduce that blood pressure is the weakened heart.

We talk about dilatation of the vessels; we cannot do much in dilating the vessels when they are partially occluded. The best mode of depletion is producing diarrhea by salines and bleeding.

Dr. L. C. Allen, Hoschton: What I want to say, perhaps, and more properly, should have come under the discussion of Dr. Robert's paper, but inasmuch as prophylaxis usually belongs under the head of treatment, I think by a strained interpretation of the rules, what I am going to say might come under the discussion of this paper.

If it be true that nephritis, endocarditis, arthritis, chorea, meningitis, and all these various diseases we have discussed this morning be due to an infection, and this infection starts from the mouth, usually from the tonsils, sometimes from the gums, if these things be true, and they are true, it should have the effect of enlarging our view somewhat concerning preventive medicine. You may take me to be a hobbyist along that line, but sometimes hobbyists are useful. I am discussing the prevention of nephritis incidentally and in connection with these other things. That brings our attention to the importance of mouth hygiene. As these infections start in the mouth, nephritis takes place, and the other infections, we should lay more stress upon mouth hygiene, and we as family physicians in our every day work among the people should teach them the importance, and especially the school children, of keeping their mouths clean, of using prophylactic mouth washes and dentrifices and a tooth brush, and keep things out of the mouth that do not belong there, such as pencils, fingers and various things like that. From those sources, and in this way, a great majority of these troubles arise.

Dr. Harris, Atlanta: I would like to ask Dr. Coleman in the treatment of the various

forms of Bright's disease what possible influence the equilibrium of the serum and tissues would have in the symptomatology and treatment of Bright's disease?

Dr. Stewart R. Roberts, Atlanta: It seems to me that we are under a debt of appreciation to Dr. Coleman for following simply a practical line of treatment. Our President used the best phrase I have ever heard in reference to any disease when he asked Dr. Allen if he was driving up to nephritis. Most men who develop chronic nephritis drive up to it. They drive up to it in their habits, in their eating, or in their bad habits. Osler says that it develops in individuals, especially in men who smoke hard, and work and drink hard. Men, after they begin to stop drinking hard, still work hard and are still smoking hard. Furthermore, as Dr. Thrash intimated by saying there is a fibrous infiltration, the kidneys grow old just as men's heads become bald or their hair becomes gray.

There are three factors in interstitial nephritis, which is the most important disease that affects the human kidney. Furthermore, it is the most important disease with which life insurance directors have to deal because most all in this room will pass out of life through the portals of the arterial system. We go by apoplexy, by cardiac failure, or by uremia, which are the three factors which enter into the treatment of nephritis. As one gets old his kidneys become fibrous or sclerosed, or the fibrous tissue is increasing. As one becomes old his arteries become hardened. As one becomes old his heart becomes tired.

We cannot discuss the treatment of chronic interstitial nephritis without discussing high blood pressure also, which is one of the factors, without discussing arteriosclerosis and without discussing hypertrophy of the heart.

I want to mention one or two factors. We cannot diagnose chronic interstitial nephritis from an examination of the urine. We cannot examine chronic interstitial nephritis from such an examination. It is a disease which is diagnosed by the clinical symptoms and physical signs. There are cases of chronic interstitial nephritis, well advanced, which from an examination of the urine will show no albumin, and only granular or hyalin casts, and from that examination alone we would not attempt or deem it necessary to institute any line of treatment or to give any advice before there are signs of palpable

arteries, increased blood pressure, accentuated second aortic sound, and the enlargement of the heart with the apex depressed downward and outward to the left. These four things are more important in the treatment of chronic interstitial nephritis than any findings in the urine itself. In a chronic case which has none of the advanced symptoms it is uremia, apoplexy, etc. Abraham Lincoln had a motto and the only one he ever used. In these chronic nephritics, realizing that the disease is not influenced by drugs, if we could get these individuals to follow Abraham Lincoln's motto in diet, in thought and in work, it would do very much to enable them to realize the condition and the necessity for going slow. Years ago Osler wrote an article which was published in *The New York Medical Journal*, on "The Advantage of Finding a Trace of Albumin and a Few Hyalin and Granular Casts in the Urine in a Man Over Forty." It makes a man realize that he has a body, and that body is a living machine which must be taken care of. Abraham Lincoln's motto was to go slow, to go easy, and for the nephritic I know of no better motto. He should go slow, and go easy, especially if that nephritic has a chronic interstitial nephritis of the arteriosclerotic type with the four signs of arteriosclerosis.

Dr. J. M. Kenyon, Richland: I would like to ask Dr. Coleman in closing the discussion to bring out a little more fully the amount of decrease in blood pressure that the practitioner should do in order to relieve the patient of the ordinary symptoms of high blood pressure in these cases of nephritis. For instance, I can make clear my request by reciting a case that came under my observation only a few days ago.

I was called to see a lady who was in bed suffering intensely from dyspnea. She was about 50 years of age; she had the accentuated second aortic sound; she had a slight displacement of the apex to the left; she had headaches. Examination of the urine showed an increase in amount with just a slight trace of albumin in it and a few hyalin casts. She had some pains about the back of the neck, and the blood pressure by systolic measurement showed a pressure of 260. By putting her on a few drops of aconite and a calomel purge, with doses of nitroglycerin, I succeeded in reducing the blood pressure (systolic register) to 220 within forty-eight

hours, when she was comparatively comfortable. I simply relate this case to have Dr. Coleman give us his idea of the duty we owe to our patients in this kind of emergency.

Dr. Coleman (closing): In reply to the last question, I wish to say that there can be no fixed standard of treatment. I do not believe there is any instrument of percision which will enable you to notice when you are adding on enough material to influence some of the outlying vessels, particularly in the brain on the one hand, and when you are not giving sufficient stimulation on the other. It is here that experience counts and the clinical picture is valuable.

I had a patient within the last two weeks who, as far as any record went, never had a blood pressure of over 180. He played golf one afternoon, and considered himself in perfect condition. He woke up with apoplexy. He was found in coma. The blood vessels in the brain were sclerosed; they were brittle, and it is a question I called attention to in a paper I read before the American Climatological Association a number of years ago. I said then it was one of the fine points in medicine how much stimulation you can afford to give a patient. This patient had Cheyne-Stokes respiration for a period of a week. It became necessary to stimulate his heart to keep it going. He is alive at the present time, but it is a question in sustaining his heart how much to stimulate it and how much we ought to use drugs to diminish tension. We might give nitroglycerin in the dose of 1-100 to 1-50 of a grain for a few hours to bring down tension. The rule should be to reduce tension by the methods so ably discussed by another writer. We should not depend exclusively upon the use of drugs, but when they are necessary they are like the Texan and his pistol, you want them bad.

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SOME PHASES OF NEPHROPTOSIS IN WOMEN.*

W. F. Shallenberger, A.M., M.D., Atlanta, Ga.

There are only a few phases of this condition in women that I wish to emphasize. I shall merely touch upon the various other phases.

Just a word as to etiology. Many theories have been advanced to explain ptosis of the kidney, but to no one cause can we assign all cases. Many factors may undoubtedly enter into its causation. There is a certain type of body-form in which movable kidney is found most frequently. Here the causative factor would seem to be a developmental thing, a lack of proper or normal development, we might say. The type of figure to which I refer is the type with the long narrow chest contracted at its lower part; the so-called funnel-shaped chest. This type of figure usually has the long slender waist. Becher and Lenhof, in 1898, first pointed this out and they established certain indices, obtained by determining the ratio between certain measurements of the trunk, which could be used as a means of comparison between the various forms of chests and abdomens. The distance from the supra-sternal notch to the symphysis, divided by the circumference at the level of the seventh costal cartilage gives the first index. The second index is the ratio between the first measurement, supra-sternal notch to symphysis, and the circumference at the level of the umbilicus and index three is the ratio between the two circumferences. The quotients are all multiplied by 100 to avoid fractions. The kidneys lie in that portion of the trunk between the levels of the two circumferences. In those patients where the lower chest is narrowed and contracted, the first index will be high and where the chest is broad the index will be low. This contracted type of chest is found much more frequently in women than in men, and this may account for the greater frequency with which movable kidney is found in men. In the body form with the contracted lower chest, the type in which the indices are high, the kidney fossae are shallower than in normally formed individuals. The other indices work out in the same way as the first one, and in many of those pa-

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tients with movable kidney the figures tend to agree.

Griffith, in 1909 and 1910, examined a large series of patients, mostly women, in an effort to confirm this work of Becher and Lenhof. The average for the first index in those women who had movable kidney he found to be 77.9, and in those without movable kidney 71.6. In the men examined the average was 67.5.

Glenard, to whom is given the credit for first calling attention to viceroptosis as a pathological condition, maintained that nephroptosis was invariably associated with a viceroptosis. Later investigators, however, and notably Godart-Danheuiux, who examined about 900 patients, have proved that there is no definite parallelism between splenoptosis and nephroptosis.

Longyear, of Detroit, lays great stress on chronic constipation as the causative factor, and assigns as the reason the tugging and downward pull of the colon exerted upon the kidney through the nephro-colic ligament. This ligament is composed of fibers which run from the fatty capsule down to the posterior portion of the ascending colon on the right side and the descending colon on the left side. Longyear claims that nephroptosis is primarily a prolapse of the colon with a secondary accompanying descent of the kidney, and he designates the condition as a nephro-coloptosis. That the right kidney is more frequently displaced than the left, he thinks is due to the tendency to saculation of the caecum and the accumulation of material there. In suspending the kidney he puts no sutures in the kidney itself, but brings the nephro-colic ligament up through the posterior incision and sutures it into the fascia with silver wire and thus fixing the colon at the same time. In my experience the nephro-colic ligament has not always been as easy to demonstrate as the illustrations in Dr. Longyear's book would seem to indicate. I have been able to distinguish it clearly in a number of cases, though. In suspending the kidney I prefer to strip off the fatty capsule and fix the kidney itself with several sutures and then bring the lower fibers of the fatty capsule, which run down to the colon, into the lower angle of the incision, and thereby suspend the colon and at the same time remove any further tugging of the colon upon the kidney.

Pregnancies, injuries, various pelvic displacements and pathological conditions, etc.,

are other factors which probably have some bearing upon the production of ptosis of the kidney in certain cases.

There is a class of cases where the kidney is not movable in the usual acceptance of the term; that is a definite displacement cannot be demonstrated, but the symptoms point to the kidney and the trouble is found to be due to a kink or constriction in the ureter from a band of fascia or from vessels compressing it. In considering the symptoms and treatment we shall keep in mind these cases. The severity of the symptoms is not at all in direct proportion to the degree of mobility of the kidney. With only the very slightest degree of displacement there may be the most severe symptoms, even Dietl's crises, and, on the other hand, the kidney may be very movable with no symptoms whatever.

As to symptoms, pain is probably the most constant one varying from an ill-defined sense of discomfort up to the most excruciating attacks that occur with the Dietl's crises. The pain is produced in two ways mainly. First by torsion of the vessels with a resulting congestion, and by kinking of the ureter and consequent obstruction to the outflow of urine from the renal pelvis and, therefore, an overdistention of the pelvis. That this is the most important cause of the pain is shown by the fact that the pain can nearly always be reproduced by forcible dilatation of the pelvis through the ureteral catheter.

The pain may be referred to other organs. It may simulate appendicitis or gall bladder disease. It may be mistaken for gastric and duodenal ulcer. The symptoms are many times misleading. Many intra-abdominal conditions may be suggested by referred disturbances. Digestive derangements are very common and they may be the predominating symptoms. Nausea, vomiting, epigastric pain, constipation, flatulency, etc., may be present. These symptoms may be caused reflexly or may be due to traction on the duodenum or to an accompanying enteroptosis.

Nervous phenomena are almost always present to a greater or less degree and in many of the cases may be directly attributable to the nephroptosis. Pardy has reported a series of patients with definite and marked mental disorders, such as severe melancholia, with or without delusions, insanity and mania, on whom he has performed nephropexy, and he reports the chances of cure of the mental disorder as 50 per cent. Neurasthenia, melancholia, hypochondria are

oftimes the end result of neglect to remedy these cases early. The constant nagging of the symptoms is a great drain upon the reserve nervous force. The derangement of kidney function brought about by the interference in the blood supply and the back pressure from ureteral obstruction might very readily result in an auto-intoxication, and Pardy thinks many of the mental disorders are possibly due to destruction or impaired function of the cerebral cells from this cause. The cases should be recognized early and efforts directed towards correcting the condition before severe nervous symptoms develop.

Movable kidney should not be regarded as a trivial affair, and the serious consequences that may result in some cases should not be ignored. Nor, on the other hand, must we be too ready to attribute various ailments and symptoms, which are neurasthenic in character, to mobility of the kidney. It often calls for a nicety of distinction.

Obstruction to the outflow of urine from the renal pelvis often predisposes to infection. Urinary obstruction is one of the most common predisposing factors in infection of the urinary tract, and many cases of pyelitis, pyelonephritis, etc., have undoubtedly been predetermined by obstruction due to prolapse of the kidney and kinking of the ureter.

Obstruction and increased back pressure in the pelvis has a damaging effect on the kidney and, in time, will greatly decrease its functional ability. All these points should be kept in mind, and every case of movable kidney that gives rise to any symptoms at all should be investigated thoroughly and an attempt should be made to correct the condition either by palliative measures or, if these fail, by operation.

The diagnosis of nephroptosis, and I mean by this a kidney that gives rise to symptoms, is often simple. The symptom complex and the physical examination leave no doubt in our minds. But it is not always so easy and, in many cases, even though we find a marked ptosis of the kidney, we can not at first be sure it is this that is at the bottom of the trouble. It is in this class of cases that ureteral catheterization is frequently of great assistance. In a large proportion of prolapse kidneys there is a hydronephrosis of greater or less degree. This can be determined by measuring the capacity of the renal pelvis. Then the pain produced by forcibly dilating the pelvis can be identified by the patient as the same pain from which she has

been suffering or as an entirely different pain. The functional ability of the separate kidneys can be determined and we can see whether or not the prolapse is affecting the function of the kidney. The kidney pelvis can be injected with a solution of collargol or similar colloidal silver solution and an X-Ray picture taken and kinks and constrictions of the ureter demonstrated.

With these improved and more thorough methods of investigation we are better able to determine to what extent the condition calls for operation. I think the operation of suspension of the kidney, when properly done, is a good surgical procedure, but I do not think it is adapted to all cases by any means. Abdominal supporters, exercises to strengthen the abdominal muscles and improve the general health, rest and forced feeding and every means at our command should be tried in most cases before operation. A certain proportion of patients will be relieved by these measures. Some will not even be greatly helped by the operation. Operation should not be put off too long if palliative treatment fails to give relief. Furthermore, attention should not be centered too strongly on the kidney to the exclusion of other conditions that may also need correction. Relaxation of the perineum, displacement of the pelvic organs, chronic appendicitis, gall bladder disease and many other pathological conditions may be present in the same patient, and should receive their share of suspicion. All these things may be a severe drain upon the reserve nervous force of the patient, and to correct one and overlook the others will almost always end in failure if our object is to get the patient well.

My own private series includes 29 cases. Of these, 18 have come to operation: 15 suspensions and 3 nephrectomies. Of course, this is too small a series from which to draw any definite conclusions, but I would like to bring out a few interesting points about them. Pain was present in all but two of these cases, and the nervous element was prominent in all but two. It is of interest to note that the same two patients in whom pain was absent were also the ones in whom nervous phenomena were negligible and these two patients had as their only symptom hemorrhage from the kidney. In both the kidney was freely movable, not tender, and there was no infection in either case. A nephropexy was done in one of these patients, and the hem-

orrhage entirely cleared up. The other patient refused operation and at the last report was no better. It was the left kidney in her case, and the right in the other patient.

In 21 I catheterized the ureter. Fourteen of these had a hydronephrosis, varying from a few c.c. above normal up to 250 c.c. In 21 of the patients the right kidney alone was affected; in 6 the left kidney alone, and in two both kidneys were prolapsed. In one of these pain was referred to the left side only; in the other there was pain on both sides and the right kidney was so badly infected that its removal was necessary.

Infection was present in 5 of the cases. One was a mild staphylococcus pyelitis that readily cleared up under medication and lavage of the pelvis with silver nitrate solutions a number of times. Another one had a colon bacillus infection which has apparently cleared up under rest and urinary antiseptics. The kidney came well down below the costal margin, but previous symptoms were only elicited by direct questioning and they were very indefinite in character. The development of the pyelitis was the first thing that occurred as a definite indication to the patient that she had trouble there, though the ptosis of the kidney was probably an old condition and the predetermining factor in the pyelitis. The other three had such severe infections that removal of the kidney was necessary. Hydronephrosis was present in each case, 24 c.c., 30 c.c., and 250 c.c. respectively, and the renal function was very greatly impaired as estimated by the phenolsulphonaphthalein test. I bring these last three cases into the series because they were primarily cases of movable kidney as evidenced by the history. Infection was secondary and the cause of the chief symptoms when I saw them.

There were 17 nulliparae and only 12 of the women had borne children.

One patient complained of pain over the vertebral column at about the level of the second lumbar vertebra. She also had frequency of urination. On examination I found the right kidney considerably prolapsed, the urine clear and the bladder apparently normal. I catheterized the right ureter and found the capacity of the renal pelvis definitely increased and on dilating it I produced a pain that was felt at first in the flank and later shifted around to the spot over the spin that had been giving trouble. I had not connected this pain with the kidney until the patient told me I had started it up by dilat-

ing the kidney pelvis. A collargol pyelograph in this case showed the kidney very low and several kinks in the ureter. The kidney function was also impaired. Under general hygienic treatment and exercises this patient improved so nicely that operation was not necessary.

In 14 of the patients other conditions were present which called for operation. Nine of these have come to operation and in 7 the other trouble was corrected. Of the remaining two, one has had to have a chronically inflamed appendix removed since, which I should have taken out at the time of the nephropexy; the other one has a cholecystitis which should have been investigated at the time of the nephropexy. One patient had a chronic appendicitis, a right inguinal hernia, a left cystic ovary, a reposition of the uterus and a marked relaxation of the perineum. I repaired all these conditions at one operation and the patient has been vastly improved. She had marked mental symptoms which have completely cleared up since the operation. To have corrected one or two of these conditions without doing anything to relieve the others probably would have given very little improvement. In this patient the renal function on the affected side was greatly impaired.

One case is of especial interest in which the kidney came well down into the lower quadrant of the abdomen. The pelvis held 60 c.c. and the functional ability, in terms of the phenolsulphonaphthalein output for the first hour was 11 per cent, as compared with 31 per cent from the left side. Three weeks after doing a fixation of the kidney I again tested the capacity of the pelvis and found that it had decreased from 60 c.c. to 35 c.c., and the functional ability had nearly doubled. This case illustrates the serious effect on the kidney brought about by prolapse and the good results from replacing the kidney and thus relieving the back pressure from the obstruction to the outflow of urine and the congestion due to traction and torsion of the renal vessels. This traction and torsion of the vessels in prolapse of the kidney probably has a great deal to do with impairment of function.

There has been one recurrence after operation, at least the patient's physician wrote me that he thought the kidney had come down again. In another patient, where the ureter was constricted and bound down to the posterior wall of the colon by dense

gibrous tissue and had to be dissected free for an inch or more, the relief from the operation was not permanent, and later another surgeon took out the kidney.

Twenty out of twenty-nine patients had indices higher than normal. Four of the remainder were about normal and no measurements were made on the others.

Conclusions.

1. Nephroptosis occurs most frequently in those women who have a funnel-shaped chest and long narrow waist.

2. Ureteral catheterization is often of great assistance in arriving at a diagnosis in doubtful cases. Also in determining the extent to which the kidney has been affected.

3. Serious consequences may result from neglect to remedy ptosis of the kidney, and every such kidney that gives rise to any symptoms whatever should receive attention and the condition be corrected either by palliative measures or by operation.

4. Other conditions which may have a share in the production of symptoms should not be overlooked, and if any such conditions are present they should be corrected also.

DISCUSSION ON THE PAPER OF DR. SHALLENBERGER.

Dr. J. R. B. Branch, Macon: Dr. Shallenberger has called our attention to the fact that we are rather careless or reckless in diagnosing kidney cases. For a long time the appendix was the abdominal goat of all conditions on the right side. Those who have done surgery and those who have not seen the removal of normal appendices when the trouble lay in the iliac fossa. The surgery of nephroptosis fell into disrepute on account of the fact that it was undertaken by men who were absolutely ruthless in stitching up floating kidneys. Obviously, one can not expect to achieve good results by simply stitching up a kidney when there is nephroptosis.

I wish to report an interesting case of floating kidney in a girl, 12 years of age, who came under my observation, and she has had the condition for two years. In Kelly's and Bernheim's recent book their youngest case was 14 years of age. This child for two years had attacks of pain in the right abdomen which simulated appendicitis, and she came near having her appendix removed. These attacks consisted of pain in the right quadrant of the abdomen, rather high up for

the appendix, but possibly in the appendix region. She had nausea and vomiting. She had elevation of temperature, and had a leukocytosis of from 18 to 25,000 before she came under my observation. She went to Baltimore; Dr. Finney saw her and was undecided as to whether or not her appendix was at fault. She was sent to Atlantic City and while there Dr. Stengel, of Philadelphia, was sent for and came down and made a diagnosis of right floating kidney. She has worn a bandage for two years; she is comfortable; she has a slightly movable kidney; she has some nagging pain and a fairly sharp pain unaccompanied by rise in temperature, and now unaccompanied by any gastro-intestinal symptoms. A rather interesting feature in this case is that she has orthostatic albuminuria. Repeated examinations of the morning urine show clearly a normal function. The afternoon specimen shows a specific gravity of 1020. She has a good healthy trace of albumin, and under the microscope a few blood cells, both of the red and white. No casts have been found.

Dr. Jesse T. Rogers, Savannah: The man who is doing stomach work comes in close contact with cases of floating kidney, and I would like to say a word or two in regard to the treatment of the condition. We used to, in our practices, call in a surgeon immediately upon finding a floating kidney; that is, a kidney having a variation from 2 to 4 inches in its normal position. We have ceased to do this to a very great extent. We now have the patient operated on if the kidney is giving a great deal of pain, or we may use the Rose belt. We elevate the hips of the patient and put on the adhesive belt which was recommended by Rose, of New York. When this is done the pain is completely relieved. Comfort is afforded the patient from the hour the belt is put on. When we first heard of it we did not think much of it, but some time ago we began to use it, and the results have been remarkable. The special kind of plaster he uses, and we are using, is put up in Germany called leucoplast. The only difference in this and adhesive plaster put up in this country is that it causes less irritation and a patient is more comfortable in wearing it. If this belt is put on with the hips elevated and the kidney put in place, there will be few operations necessary.

Dr. Shallenberger (closing): There is one

point I want to lay stress on. In these cases we get other conditions giving rise to symptoms, and that centers your attention very strongly on the kidney, and if you do not look for these conditions you are bound to fail to bring about a cure. You get a general visceroptosis, pelvic displacement, chronic appendicitis and gall bladder disease, and all those conditions which are only a nervous strain to the patient, and if you do not correct these conditions you will fail.

In regard to the palliative treatment, I believe in it for these cases, and in every case an attempt should be made to replace the kidney by use of abdominal supports or plaster strips or belt that Dr. Rogers mentioned, and also by forced feeding, by rest, and various other measures.

There is one thing that I would like to bring out clearly, and that is, if you do not get results quickly do not neglect the case too long. You may get severe damage to the kidney and get a severe nephritis sometimes if you put the thing off too long.

Longyear, of Detroit, has an excellent abdominal supporter made for the purpose of holding up the kidney and the abdominal viscera. It is a metal truss which straps around the hips and holds the kidney in place. It takes the patient some time to become accustomed to it.

I want to relate one other case of a negro showing what damage back pressure will have on the kidney if neglected. One patient had a kidney pelvis that held 60 c.c. The kidney in this case came well down under the lower quadrant of the abdomen. The functional output on the right side was 11, while it was 31 per cent. on the left side. In three weeks it was reduced to 35 c.c., and the functional ability nearly doubled what it was before operation. This shows the value of operation in these cases, but we should not neglect any other treatment which will help to replace the kidney.

One patient had pain over the vertebral column about the level of the second lumbar vertebrae, and she had frequency of urination which led me to investigate the urinary tract. The bladder was normal, but the right kidney came well down. I introduced a ureteral catheter into the kidney pelvis and found a capacity of about double the normal, and when I dilated to the point of producing pain, the pain was felt in the flank and shifted around. This began in the kidney region and shifted around to a point over the spine.

and that was the first time I connected the pain in the spine with the kidney. Apparently when the pelvis was dilated the pain in the spine would begin. Collargol injection of the pelvis showed a number of kinks along the course of the ureter. By a course of general hygienic treatment and the application of an abdominal supporter the patient was relieved.

PELLAGRA AND ACIDOSIS.*

H. F. Harris, M.D., Atlanta.

Before beginning a discussion of the relationship of pellagra to acidosis the writer would crave your indulgence for a few moments in order that he may call your attention to some facts respecting the latter condition that are of historical interest, and that are likewise of importance from a clinical standpoint.

As is well known, auto-intoxication, the result of the presence in the blood of acetone bodies, has been long recognized, but it is not generally known that while the nature of the process was not then understood, the milk sickness, so common in the mountains of North Georgia and Tennessee, probably furnishes the first typical examples of this condition that appeared in medical literature. Unfortunately, however, as has just been said, the true nature of milk sickness was not recognized until within recent years, and even at the present time the causation of its symptomatology is not generally understood. So far as the writer is aware, he was the first to recognize the condition as an acidosis, acetone having been found by him in the urine of a patient with milk sickness seen with Dr. George C. Erwin, of Young Harris, Georgia, in the summer of 1904; a short time after this two other cases were seen in consultation with Dr. M. E. Lapham, of Highlands, N. C., who, on the writer's suggestion, examined the urine for acetone and found it in both instances. Having become very much interested in the subject, and learning that Dr. Brabson, a prominent physician of Macon County, N. C., had acquired a great reputation in the treatment of this disease, he was visited by the writer, and much to his astonishment found that this gentleman, while entirely ignorant of the connection of the symptoms with acetonaemia,

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was nevertheless employing a method of treatment which met all the indications suggested by the most modern knowledge of the subject; to this matter we will again return in considering the treatment.

While acidosis was recognized as far back as 1857 by Petters, it was not until the well known papers of Von Jaksch appeared in 1885 and 1886 that general attention was called to the matter. As shown by the writer just mentioned, as well as by Legal, Boeri, Waldvogel and others, acetone occurs in the urine in small amounts even in health, the amount averaging in the 24 hours about 15 milligrammes; the quantity excreted is, however, greatly influenced by the character of the diet, being much increased by the withdrawal from the dietary of carbohydrates. Under normal circumstances the amount is greatest when carbohydrate starvation has been going on for some days, and is but little influenced by the administration of full quantities of albuminous food. Pathologically the greatest increase in acetone, irrespective of diabetes, is found in fevers and in conditions of inanition. According to Von Jaksch it is not uncommon in persons suffering with advanced carcinoma, and Baginsky is of the opinion that in children convulsions are often the result of the presence of this substance in the blood. It has also been shown by Palma, Azemar, Araki, Senator, Boeri, Brieger, Schrack, Engle, Mayer, Waldvogel, and others, that various poisons may give rise to the condition such as phosphorus, phloridzin, carbon monoxide, atropine, curare, antipyrin, male fern, heroin, benzol, salol, benzonaphthol, morphine and chronic lead poisoning; to this group undoubtedly belongs milk-sickness. This symptom-complex is especially common in diabetes, and gives rise to death in this disease as the much-dreaded diabetic coma. Closely related, in all likelihood, to the varieties of aceto-naemia described by Lorenz, including puerperal eclampsia, in which the pathological state is supposed to be of digestive origin, are the forms of this condition associated with pellagra, though we should not forget the possibility that the symptom-complex may result from the lesions of the sympathetic that occur in this disease, since Lustig has shown experimentally that it may be caused in this way.

That aceto-naemia is not altogether uncommon in pellagra has been known for a long time, the condition having been first

referred to by Brugia, and later by Lucatello. It was shown by the latter investigator that pellagrins easily acquire this condition when the hydrocarbons in their dietary are reduced, and he likewise observed that when the condition was once brought about the patient returned to a normal state only with great difficulty. It is also noted by Simonini that aceto-naemia is common in the children of pellagrins, and that the condition is often severe.

Being aware of the investigations of the authors just referred to, the writer was rather on the lookout for cases of the kind, and was at last rewarded by meeting up with several instances in which there was at least a strong probability that the acidosis was associated with pellagra. The time of the association will only be taken up in giving the clinical details in one of these cases, as they were all almost in every particular alike, and the clinical picture was so characteristic that an extended discussion is entirely unnecessary.

Miss L. L., age 47, was born and still lives in Middle Alabama, and was seen on October 21, 1913. Nothing in family history of importance. The patient had typhoid ten years before, and three years later malaria. Has always worked a great deal. Sleeps from seven to eight hours. Drinks from one to two cups of coffee a day, but little tea. Is a moderate eater and chews food well. Eats little sweets or sour, but much fruit. Eats hot breads and potatoes, little rice, corn products once or twice daily, considerable amount of meat and soups, and few condiments. Does not take soft drinks.

For a long time has not been so well in summer as in winter. In May preceding time when she was first seen by the writer she began to feel very languid and had a considerable amount of pain in the stomach, which has continued since. She suffered much from vertigo, but was not particularly gloomy. No globus hystericus, but much burning in the esophagus and stomach. Very weak in the legs. For some weeks patient was constantly nauseated, and vomited continuously.

Three years before patient had in the spring an attack resembling the present one, but by no means so severe; at that time there was redness of the mouth and much burning in the tongue and throat, but no diarrhoea.

The patient is very thin, having lost about 20 pounds, the skin and mucous membrane pale, but lips and tongue very red and the

latter exhibiting numerous deep furrows over its upper surface; underneath the tongue is sore. Pulse ranges from 80 to 116, respiration 14 to 20, and temperature from 98.2° to 100.1°.

Physical examination revealed nothing abnormal in the chest or abdomen.

Blood cells haemoglobin 80, red cells 3,220,000, and white cells 7,600; differential count, small mononuclears 23%, large mononuclears 10%, polymorphonuclears 65%, and eosinophiles 2%.

Faeces contain no eggs of parasites or blood.

Urine 1,300 c.c., acid, specific gravity 1010. No albumin or sugar. Urea 16.25. Phosphoric acid 1.82. Chlorides 11.44. Acetone 349.4 milligrammes in 24 hours. Diacetic acid present. Microscopic examination negative.

Diarrhoea developed immediately after admission. This was followed by a marked diplopia a few days after admission to the hospital, and somewhat later the patient became delirious and presented the typical symptoms of the so-called typhoid pellagra, and died eight days after she was first seen by the writer.

In the way of treatment this patient was at once put on the remedies which should theoretically be of most avail in acetonaemia. As it is established that acetone is chemically derived from diacetic acid, and that this substance is in turn the offspring of betaoxybutaric acid, and since it is furthermore well recognized that the symptomatology of this condition is probably quite as much, if not more, the result of the action of these acids than that of acetone, all authorities advise that we should endeavor as early as possible to neutralize them by alkalies. The patient was, therefore, given 60 grains of bicarbonate of soda every two hours. As experiments have shown that acetonaemia quickly subsides when the patient takes sufficient quantities of carbohydrates, such foods were administered to as great an extent as was possible. Among the substances of this kind that were tried were the ordinary breads, and particularly oatmeal, which is so strongly recommended by Von Noorden. The patient not improving, she was later placed on the brandy and honey mixture used by Dr. Brabson in the treatment of milk sickness. The patient unfortunately grew worse rapidly and died eight days after she was first seen.

More recently the writer has seen three other cases in women with clinical histories in all essential particulars identical with those of the patient just referred to. Of these two recovered and one died. It is rather interesting, and is perhaps more than a coincidence, to note that in the last mentioned case disturbances of vision were very pronounced a short time before death; this patient also developed ultimately a condition which was not clinically distinguishable from typhoid pellagra.

In the patients that recovered one of them only finally did so after a month or six weeks of continued treatment; this patient had suffered with nausea and vomiting for several months before a diagnosis of acidosis was made. The other patient recovered after an attack of desperate illness lasting several weeks, and only very slowly regained a normal condition.

As to whether or not the cases referred to are to be looked upon as pellagrous the writer does not undertake to say. As all of them, however, gave a history of having been worse for several years in the spring, as they suffered from vertigo, great mental and physical depression, and finally developed sore mouth and diarrhoea, the conclusion would seem not unjustified that they were in all likelihood victims of a peculiar and unusual type of pellagra.

The diagnosis of acidosis, as a rule, presents no difficulties and can in the great majority of instances be made from the breath. The acetone odor closely resembles chloroform, and in severe cases may be so pronounced that it may be detected on entering the room where the patient lies; it is likewise the case that the breath is often quite foul, having a peculiar, rather characteristic and very disagreeable odor in addition to that of the acetone. The patient always feels ill, and is greatly nauseated. Where any doubt exists as to the nature of the trouble an examination of the urine for acetone will always decide the matter without difficulty.

In the writer's experience the patients usually become nauseated when the excretion of acetone reaches about 200 milligrammes in the 24 hours, and continues until the amount is reduced below this figure. The largest amount passed by any of the patients referred to in this paper was 4,114.77 milligrammes, and curiously enough the symptoms were less marked than in any of the others. In this connection the writer would

call attention to the fact that he has never seen patients with diabetes suffer with nausea, though they usually present a more marked degree of acetonuria than the other types; it seems not unlikely that there is some radical difference between this class of cases and those caused in other ways.

From a practical standpoint the detection of diacetic acid by the simple expedient of adding a few drops of a 10 per cent solution of ferric chloride to the urine is of the same significance as a more elaborate analysis for acetone; when the acid is present the gradual addition of the iron chloride solution results in the formation of a beautiful wine red color.

As indicated by the remarks already made, the prognosis in this condition is evidently quite grave, and it is doubtless true that when not properly treated the patients die in the great majority of instances.

In the way of treatment every effort should be made to render the urine alkaline by the administration of alkalis, which should be given in as large quantities as the patient can bear. Dr. Brabson, whose success in the treatment of milk sickness has already been referred to, gives ordinary bicarbonate of soda, while on the other hand Von Noorden advises the stronger carbonate of soda. Where the patient is vomiting constantly the latter is perhaps more satisfactory than the former, as the quantity necessary is not so great, and, in addition, on account of its lesser bulk may be given enclosed in capsules that do not dissolve in the stomach. In severe cases it may be necessary to administer alkalis intravenously, and large quantities may thus be given without injury; the utmost care should be taken to prevent the solutions getting into the tissues, as when this occurs sloughing very frequently follows. The dietetic treatment consists in the administration of carbohydrates. Von Noorden recommends oatmeal as being the most satisfactory, while Brabson has used with wonderfully satisfactory results the carbohydrates contained in honey; the former is given well-cooked, at frequent intervals, and in as large quantities as the patient can be induced to take, while the latter is best administered in the form of a mixture with an equal amount of brandy. The writer has frequently succeeded in getting patients to take candies where the appetite made other carbohydrates distasteful. In very severe forms it is also desirable to administer in these cases

carbohydrates subcutaneously or intravenously. For this purpose glucose or laevulose should be used, as ordinary cane sugar can not be assimilated by the organism without having undergone previously a process of digestion.

It is a fact that many of these patients get along much better with a perfectly dry diet than where it is liquid, and this should always be tried before resorting to subcutaneous feeding. In addition to this, of course, the patient should receive every attention, and should be placed under the best hygienic conditions.

As this condition is probably quite common, and as the chances of recovery probably largely depend on a vigorous therapy, early instituted, the matter deserves the earnest attention of all general practitioners of medicine.

DISCUSSION ON THE PAPER OF DR. HARRIS.

A Member: I understood Dr. Harris to say that he would not declare positively the cases he has reported are cases of pellagra. I presume from his statement these cases did not have a dermatitis. Most of us believe that there is pellagra without a dermatitis, but for the sake of accuracy we should not pronounce any case pellagra without the presence of a dermatitis. It is a fact that in pellagra we have every symptom known to be present in intestinal auto-intoxication; I mean true gastro-intestinal intoxication, and not intoxication from poisonous foods and other poisons that are related.

The symptoms in the class of cases Dr. Harris reports I have been seeing for years, a much longer time than pellagra has been reported to be present in the United States. I am certain that all these cases are not pellagrins. These patients have the alimentary intoxication, the red tongue and sore mouth, the dry skin, diarrhea, nausea and vomiting. Particularly is this true in those cases where nausea and vomiting are found present. These cases show acetonemia. It is a question whether or not the presence of acetone is not due to carbohydrate feeding.

In regard to the diet in this class of cases, the diet should be very well balanced. Carbohydrates should not be resorted to alone. The effects of carbohydrate feeding in this class of cases is so marked that Beck, of the Panama Canal Zone, has attributed them

very largely to carbohydrate feeding. It is well known that excessive carbohydrate feeding develops fermentation in the small intestine, especially in the absence of hydrochloric acid in the stomach.

Dr. George M. Niles, Atlanta: The investigations of the Thomson-McFadden Commission in the etiology of pellagra, while not conclusive, have led us nearly to the belief that the etiology of pellagra lay in the form of balance of the ration in the carbohydrates or some form of that predominating. This view has been elucidated still further by Dr. Joseph Goldberger, who has been especially detailed by the United States Government for the study of pellagra. It is needless for me to go into a discussion of the etiology of pellagra, because if that is not true, and it is a matter of individual opinion in which another man's opinion would be equally of value to the different claims.

There is only one phase of Dr. Harris' thoughtful paper which I wish to discuss. I do not think that he proved all of these cases were pellagra. He said they were probably pellagra. Therefore, he does not make the strong assumption that he was treating pellagra. The point to which I wish emphatically to dissent is the use of brandy in any form of pellagrous condition. My experience in the treatment of pellagra has led me to avoid alcohol in any form. I have seen a number of cases which seemed near recovery, almost within sight of the harbor of safety, who, if they had indulged in alcoholies, would find their condition very much aggravated; that death might possibly ensue or a decided relapse would occur.

In regard to the use of brandy and honey, so far as honey is concerned, it will bring us into the carbohydrate discussion which I do not feel that the time or opportunity would permit us to discuss. I simply wish to make my dissent as to the use of any form of alcoholies in any stage of pellagra or suspected pellagra.

Dr. Alexander Dawson, Atlanta: At the Augusta meeting some two or three years ago, the essayist made the more or less definite assertion that pellagra would be thrown into the domain of surgery. Repeatedly he has said that pellagra was a disease of the central nervous system in its incipiency. He did not admit of a primary intestinal intoxication. Repeatedly, he has advocated no therapy because he pretended the malady

was not amenable to any therapy, and it is a wholesome sign of the times that he has condescended to give us today a little bit of therapy predicated on logical reasoning. (Laughter.)

Dr. Harris (closing): I have only one or two remarks to make in connection with this discussion. The first thing I will call attention to is that to view only those cases that show skin symptoms as being pellagrous is unquestionably the most superficial view of the situation, and it is not at all based on very full knowledge which we have of the pathologic histology of pellagra. There have been a number of able investigators who have worked on this problem for many years, or ever since the investigation made in 1880, when Tonnini pointed out that the real lesion of pellagra existed in the central nervous system. In the central nervous system there is produced extensive destruction of nerve cells, gradually going on year after year, the cells remaining taking up the function of those that have been destroyed. As a consequence of these cells dying processes die. The cells break up and disappear, and we have their axones degenerating, so we have not only in the brain, but in the cord, extensive areas of sclerosis. When we remember also that the condition is equally pronounced in the sympathetic nervous system, it must lead to all sorts of irregular symptoms, and there is no man who is well versed in pellagra at the present day who would for a moment consider that pellagra was only manifested by skin symptoms. We will have to get away from this if we wish to do anything for pellagra cases. If we wish in the future to prevent deaths from occurring all over the country we must recognize these cases in the early stages, as is done a long time by those people who investigated the subject. The process naturally implies lesions that are absolute. It is impossible to take away the scar tissue which forms in the nervous system, or to make new nerve cells and new processes. Naturally it would be impossible for a man ever to be cured of pellagra in the sense that the lesions of the central nervous system should be removed.

I did not hear the remarks made by Dr. Dawson because there was so much noise in the room at the time, but I understand he said that I had a treatment for pellagra. He misapprehended what I said. I merely was referring to the symptoms resulting from

pellagra which might become annoying. It is possible to do a great deal for the skin lesion with the acetate of aluminum or ointment. That is a symptom and by no means treating the disease.

Lastly, I must say a word, if you will permit, about the remarkable discoveries recently made by the Marine Hospital Service respecting the effect of protein diet in pellagra.

About 1786 Strumpell, the greatest student of pellagra that ever existed, noted the fact that good foods were far more beneficial in curing pellagra than anything else. In 1796 Cherry published a paper in which he reported a large number of cases of pellagra cured by a good food only. In 1810 Mezari wrote a celebrated monograph on pellagra in which he reported a large number of cases of pellagra cured by a good food only. In 1810 Mezari wrote a celebrated monograph on pellagra in which he advanced the idea for the first time, that maize was definitely the cause of the disease, and the belief was that maize was poor in protein albuminous material, which was not true.

In 1856 other monographs appeared on the subject of pellagra, in which it was particularly advocated that the cause of the disease was due to a lack of protein diet, and the cure was to feed people properly, and now we find the Marine Hospital Service has made this remarkable discovery in the present year. (Laughter.)

"WHOSE BREAD I EAT, HIS SONG I SING."

Last September the United States Department of Agriculture issued a press bulletin describing the work of the Bureau of Chemistry in prosecuting the vendors of manufacturers of fraudulently exploited "patent medicines." At the end of the bulletin was a tabulated list of "other preparations against which the government's charge that they were falsely or fraudulently labeled was sustained by the federal courts." Tucked away in the list was a product often euphemistically described as an "ethical proprietary," but none the less essentially, a "patent medicine"—Gray's Glycerine Tonic. The editor of the Atlanta Journal-Record of Medicine, apparently not having read the bulletin with any great degree of care, published it verbatim. Thus it was that the Atlanta Journal-Record of Medicine for September,

1915, presented the interesting sight of a half-page advertisement of "Gray's Glycerine Tonic" in the same issue that contained the government's article classifying "Gray's Glycerine Tonic" among the false and fraudulent products! What happened? In the very next issue the Atlanta Journal-Record of Medicine apologized thus editorially:

"In our September issue, Gray's Glycerine Tonic Comp. was inadvertently included in a list that seemed to be under the ban of the Government and very likely an injustice has been done the Purdue Frederick Company which we desire to undo as far as possible."

Did the editor mean by "inadvertently included," that he would have omitted "Gray's Glycerine Tonic" from the government list had he noticed it in time? If so, on what grounds? It is a fact that "Gray's Glycerine Tonic" was one of the "Fifty Falsely Labeled Medicines"; it is also a fact that it is one of the products that government officials and the federal courts have declared to be sold under claims that are "false, fraudulent and misleading." If "Gray's Glycerine Tonic" was fraudulently exploited—and the government and the courts have so declared it—why is it necessary for the editor of a medical journal to apologize to his subscribers for having told them so? The only reason that occurs to us is expressed in the caption of this article.—Journal of the American Medical Association.

W. B. Saunders Company, Publishers of Philadelphia and London, have just issued their 1916 eighty-four-page illustrated catalogue. As great care has evidently been taken in its production as in the manufacture of their books. It is a descriptive catalogue in the truest sense, telling you just what you will find in their books and showing you by specimen cuts, the type of illustrations used. It is really an index to modern medical literature, describing some 300 titles, including 45 new books and new editions not in former issues.

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NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

IMPORTANT ANNOUNCEMENT.

At a recent meeting of the Council of the Association, the question of Legal Defense was discussed, and a committee was appointed to arrange for same.

It has been the hope of the Association for several years, to give this feature to its members, but owing to financial reasons, it has heretofore been impossible.

The brighter prospects for the ensuing year, causes the committee to feel that the Association is now warranted in providing free defense of malpractice suits when brought against its members.

This will make it necessary for county societies to exercise unusual care in electing only high-class and responsible physicians to membership, but at the same time it will bring into the Association all of the good men in the state, as the protection feature alone would cost each individual man Fifteen Dollars per year if secured outside.

It is becoming a prevalent fact in certain localities for certain parties to secure the services of a physician, or especially a surgeon, in an emergency and refuse payment. When the doctor attempts to collect his bill he is told that his services were unsatisfactory and is threatened with a damage suit if he attempts to collect his account by legal means. This is the origin of nearly all malpractice suits. There are always certain shyster lawyers who will gladly take such cases on a contingent basis, and it is often cheaper for the doctor not to attempt the collection of his fee, even sometimes to pay a small amount to the unworthy claimant, than to have to employ an attorney and fight the case.

The Association hereafter protects you from such vermin. For the sum of three dollars you get membership in the State Association, and in the American Medical Association, your State Journal each month, and Legal Defense.

Can you afford not to be a member?

Only those holding annual membership cards at the time the alleged malpractice was done may avail themselves of the Legal Defense.

You may be the next victim. It will take all the good men in the state to keep up this feature. Are you willing to do your part?

Pay your dues to your County Secretary at once!

ENDOWMENT OF \$500,000 TO AMERICAN COLLEGE OF SURGEONS.

The American College of Surgeons begins the new year with an announcement that it has secured from its Fellows an endowment fund of \$500,000. This fund is to be held in perpetuity, the income only to be used to advance the purposes of the College. By this means lasting progress toward the purposes of the College is assured.

The College, which is not a teaching institution, but rather a society or a college in the original sense, now lists about 3,400 Fellows in Canada and in the United States. Without precedent for swiftness of development it stands today a powerful factor both in the art and in the economics of surgery.

Primarily the College is concerned with the training of surgeons. But the significant fact in connection with the endowment just secured is that it has come from the surgeons themselves, inspired by a motive for better

service to the patient. Ideals in the profession of medicine are living things. Probably no more convincing proof of this fact exists than the sacrifice which the surgeons of this continent have made willingly in order to raise this fund.

To begin with, these ideals are to find concrete expression along the following lines of activity:

1. Since the whole problem of the training of specialists for the practice of surgery is the primary purpose of the College, the Regents propose at an early date to present a clear conception of the College to the undergraduate medical students of this continent. The Regents, further, will ask each senior student of this group who has in mind to specialize in general surgery or any branch of surgery to register with the College. As these students, then, serve later as internes and as surgical assistants, they will be requested to report these facts to the College. The College, in turn, will systematically seek information as to the ability and character of such men; and the information thus obtained becomes the basis of admission to Fellowship in the College. In addition to this procedure, the Regents will insist upon the proper keeping of case histories, and they will endeavor to stimulate in these men in training right ideals of medical practice. In this program they ask the active co-operation of the faculties of the medical schools and of all practitioners of medicine.

2. Inasmuch as proper training in surgery is inseparably involved with the conduct and efficiency of hospitals, the College will seek accurate data on all matters which relate to hospitals. From time to time it will publish studies upon hospital problems, the purpose being always to be helpful to the hospitals. These publications, further, will inform recent medical graduates as to where they may seek adequate general or special training in surgery. To be concrete the College will deal with such problems as (a) the proper equipment for medical diagnosis, e. g., well-equipped laboratories for chemical, pathological and X-Ray work; (b) the proper forms for case histories and the facilities for keeping these records; (c) the management and the curricula of the nurses' training schools; (d) the specialization essential in any well organized hospital.

3. The College will ask the faculties of medical schools to consider the advisability of conferring a supplementary degree of pro-

ficiency in general surgery and in the various specialties of surgery.

4. The College will issue readable monographs, educational in nature, to the press, to the general public, to hospital trustees, and to the profession of medicine upon subjects of medical procedure and the whole meaning of fitness to practice surgery.

The entire impetus of the College springs from within its own membership. Necessarily that impetus implies reform. But there is a vast difference between reform preached at men and reform innate in the hearts of men which finds expression at their own initiative. Whatever impetus the College possesses, it originates among the surgeons themselves. It is not an extraneous force or an "uplift" movement. But rather, out of the widely divergent views on many subjects among the Fellows, the aims of the College rise as those time-tried aspirations which are inherently the basis of all that is valuable in the vocation of surgery. The purposes of the College are concerned directly with matters of character and of training, with the betterment of hospitals and of the teaching facilities of medical schools, with laws which relate to medical practice and privilege, and with an unselfish protection of the public from incompetent service; in a word, they embody those ideals which have stood the test of centuries. Upon these the Fellows are united. These are the ideals which each Fellow, single-handed, has endeavored to foster, and the expression of them today through the Fellows. The splendid fact is that the Fellows have grasped in an instant the meaning of the College by a process of fusion and they have gladly made sacrifices for its success.

As one comes into wide acquaintance with the Fellows of the College and catches some fair notion of their earnestness, he sees the future of the organization not by means of logic. There is something more subtle and potent than argument. A determined optimism carries a momentum of its own. Without a logical process it seeks concrete expression; and, more than this, it really recreates circumstances through all shifts of weather or play of incident with a certainty not excelled by an utterly rational course. The Fellows of the College, in their widely scattered districts, fuse their consciousness of the organization with a splendid hope in their hearts to advance all that is important and valuable in the profession. This very

attitude of mind is the first promise for the future of the College. It is a promise that admits of no defeat. It is a pledge of loyalty to medical patriotism which means loyalty to the public welfare exercised through intellectual sincerity and scientific accuracy. It means a safeguard to the public, for it indicates where honest and adequate surgery may be found.

Office of Information, United States Department of Agriculture.

SEIZE SUBSTITUTE SPECIFICS.

Cheap Imitations of Well-Known Preparations Peddled to Drug Store Proprietors.

Washington, D. C.—Several shipments of worthless imitation drug products have been seized by the officials in charge of the enforcement of the Food and Drugs Act. Itinerant peddlers are selling to drug stores large quantities of preparations made up and labeled in imitation of high-priced patent medicines of foreign origin. Only small quantities of the genuine medicines have been imported since the war began, causing a great increase in prices. Unscrupulous manufacturers are attempting to reap a harvest by substituting for the genuine medicines cheap chemicals with no medicinal value whatever. In order to make it difficult to trace these preparations to the parties responsible for their manufacture, they are not usually distributed through the regular channels of commerce, but are peddled about to drug stores by itinerants who make immediate delivery at the time of sale.

A preparation put up in imitation of "Neosalvarsan," a medicine which has largely displaced the preparation known as 606 in the treatment of syphilis, is being distributed to drug stores in this manner. A sample labeled "Neosalvarsan," which was recently examined by the department, was found to be nothing more than salt colored with a coal tar dye, none of the genuine Neosalvarsan whatever being present. The label on this product was an exact reproduction of the genuine imported Neosalvarsan, or it was an original container refilled with the imitation article.

This fraud is held to be particularly flagrant, according to the medical experts of the department, not alone because a worthless preparation is sold for a high price, but mainly because Neosalvarsan is usually ad-

ministered by injection directly into the blood of the syphilitic patient. The cheap substitute is not only worthless in the treatment of this disease, but when injected directly into the blood might work considerable injury.

Other preparations which are peddled to druggists and purport to be acetylsalicylic acid, commonly known as aspirin, a medicine of foreign origin regularly prescribed by many physicians for certain ailments, have been seized by the officials in charge of the enforcement of the Food and Drugs Act, because an analysis showed that the products were worthless imitations.

Owing to the manner in which these preparations are peddled about, it is difficult to trace the interstate shipment of any of them, and in cases where there has been no interstate shipment the Federal Food and Drugs Act has no jurisdiction. On information furnished by the Federal authorities some of these imitation goods have been seized by city officials who had authority under state laws to proceed when there had been no interstate shipment.

PROTECT YOUR EYES FROM THE MOVIES.

The progress made in the character of subjects presented in the movies today, makes it desirable for all enquiring people to at least attend occasionally. Annoying after-effects on the eyes of many prevent them from enjoying the social diversion and often the educational advantages thus derived. The great majority of those who suffer from eye-strain after watching moving pictures can find much, if not complete relief, in perfectly fitted glasses. The picture may not be quite so sharp, but this is more than compensated for by the increased comfort. For those with very sensitive eyes, a colored glass, either amber, yellowish green or amethyst, may be necessary to give complete relief. There have been put on the market recently several varieties of colored glass, each of which has some advantages, so that some suitable color can usually be secured. A subdued light in the theater is much less irritating than when the only light visible comes from the screen. It is also advisable to avoid sitting in a place where it is necessary to look upward, as the additional strain becomes very tiresome, and infrequently leaves a headache.

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No. 10

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AUTOGENOUS BONE-GRAFTS IN NON- UNION AND MALPOSITION OF FRACTURES OF LONG BONES.*

By William S. Goldsmith, M.D., Atlanta, Ga.

The reduction of fractured bones to a normal position, and the maintenance of this position until perfect repair and function occurs, is the desire of all surgeons.

The adjustment of fractured surfaces, free of intervening muscular tissue and bone fragments, by means of complete muscular relaxation, resulting from general anesthesia, is the first step in the treatment of any fracture.

The stable fixation of the limb with appropriate splints, and the removal, inspection and reapplication of the apparatus is the next step.

The foregoing sentences are written with the purpose of fixing our minds upon the surgical and mechanical principle of the repair of a bone, and the perfect return of function to the impaired limb.

I shall omit, purposely, the question of constitutional conditions antagonistic to the

healing of a fracture, for the reason that such causes are so infrequent that they require only this passing notice.

If, then, with careful observance of all surgical detail, we get non-union, or vicious union with accompanying loss of function and deformity, how shall we set about toward correcting same?

Many years ago various external appliances were used to support weak, short and crooked legs. These things, happily, have been discarded. The use of a wire as a fixation agent was next brought forward, and it must be admitted that occasionally a good result was obtained. And, too, how often was this wire removed, not by the original operator, but by some other surgeon.

The X-ray now tells the full and complete story of silver wire. In the last few years other and more formidable unabsorbable materials were introduced, the Lane plate and nails of various sizes.

Leaving out the large question, at this time, of infection, again the X-ray checks up many disasters. In all fairness to the plates and nails, and I speak from some personal experience, splendid primary results were occasionally secured.

I have one Lane plate in a tibia for twen-

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

ty-seven months, and two four-penny nails in a humerus for twenty-four months. So far neither case has given trouble.

But in the light of recent and wider experiences, is not buried unabsorbable material a possible menace to primary union of the soft structures, and a factor of future complications in the bone, by reason of its presence as a foreign body?

For many years earnest efforts were made looking to the employment of bone transplants from one person to another, or from one animal to another. Except in rare instances all these experiments were failures.

The peculiar selective affinity and tolerance of bone tissue, as a transplant or graft, derived from the same individual, was the forerunner of a wonderful epoch in orthopedic surgery.

The autogenous bone-graft, whether used as an inlay or medullary plug, solves, certainly for the present time, a problem in bone repair, not obtainable by any other means.

The basis of all successful bone transplantation is asepsis. The most painstaking technique in all the details of the operation is an absolute essential, and the one vital point constantly in the minds of the operator.

When one considers the unavoidable trauma incident to an operation upon the femur, for instance, and the extent of the manipulative exertion, it is an impressive lesson in tissue tolerance, and tissue reconstruction.

In the hands of the most finished technician and unusually skilful operator, the rigid observance of the Lane rule of "touch not, infect not," may be undertaken, but it is a serious question with the writer that the good general surgeon may be unduly handicapped and stripped of his confidence by believing that his habit of first-class band, glove, instruments, and operative field asepsis, must be further augmented by a degree of manual dexterity possessed by few men.

It is interesting and edifying to read of these operations performed without touching the wound or anything else concerned in the operation with the gloved hand. Such assertions mean that our wonted asepsis is vulnerable to unwarranted attacks, and we should enter a protest with reference to it.

The acceptance of this dictum narrows the field of usefulness of this operation and serves to prevent many qualified surgeons

from attempting a step they are capable of accomplishing.

The use of an intermedullary splint removed from the tibia, properly fitted and snugly fixed, and the limb held in position for a reasonable time, with appropriate apparatus, not only stimulates osteo-genetic activity and osteo-conductivity, but insures the true bone alignment that should be maintained until satisfactory ossification is assured.

The function of the graft is simply that of holding in near apposition, and in a straight line, two fractured surfaces. The ultimate disposition of the graft is absorption, but it is true also that its office is potential in the production of bone cells, and conducting these same cells to their proper destination.

The preservation of a periosteal coat on the graft seems to be a mooted point. A strip of periosteum does no harm, and it is speculative if the process of repair is dependent upon it.

After the graft is in position the tissues should be left alone, sponging of the wound cavity is prohibited, and all blood must remain for the purpose of obtaining an organization of a firm clot, which not only acts as a protecting agent to the traumatized tissues, but is an undoubted factor in cell conductivity. The suturing of the aponeurosis with small plain catgut, and the skin closed also with catgut, without, of course, drainage, is all that may be necessary in the securing of prompt wound healing.

Plaster of paris fixation for two or three weeks, without in any instance the uncovering of the wound, except in case of infection, which is determined by the temperature range. For three or four days subsequent to the operation, we may expect one-half to one degree of fever, due to trauma and physiological stimulation.

After this time a rise of temperature to 100% to 101% is a sure indication of infection, and our undoing. An examination of the wound is at once made, and if infection is found, immediate drainage is instituted. However, under no circumstances should the graft be disturbed at this time.

If the graft is interfered with, it will necessitate a second operation, and prevent possible callous organization. That the callous will overcome this difficulty and repair occur was seen in one case, although at the present writing a sinus exists down to the graft, and it has been a disappointment that

the graft has not been thrown off or digested. It is apparent that its removal is now indicated.

The extraction of an infected graft should be done with care, as there is always a possibility of union occurring after the foreign body has been removed.

The plaster splint is renewed every twelve to fourteen days, and the conduct of the treatment is the same as an ordinary simple fracture.

The wound of the leg, from which the graft was taken, is treated as an incised wound, the union of which is always perfect on account of the enforced rest and quietude of the patient.

DISCUSSION ON THE PAPER OF DR. GOLDSMITH.

Dr. C. C. Harrold, Macon: Yesterday you saw some plates of bone-grafts. I showed two X-ray plates. One of these was taken by an expert, Dr. Baer, one of the most expert men in America in that line of work, and it was done, I suppose, under the best of circumstances with the best of apparatus, and I suppose his work probably is as well known as any man's in America; yet this graft has not taken. I mention this to sound a note of warning that those grafts do not all take. I understand that Dr. Baer claims that 90 per cent of them take, while Murphy claims as high as 100 per cent. I do not know what Dr. Goldsmith's record has been, but I do want to sound that note of warning, that these things do not all take, and would rather advise that surgeons should not be in too much of a hurry to do grafting.

Dr. Goldsmith (closing): I have had 25 per cent failures; but when we have vicious union, a flail joint of the femur, a short leg, and an angulated fixed leg, what are we going to do about it? So frequently Lane plates have to be removed; silver wire has to be removed, not by the operator who put it in, perhaps, but some other doctor does it. We must do something for the patient to give him a serviceable limb. He can not walk on crutches all the time with his leg amputated or on a high shoe, but with proper extension of the leg, with proper apparatus, for ten days or three weeks before operation, stretching the muscles and tendons, then making an autogenous graft, any patient with that sort of leg would accept the op-

portunity of having this done even in the face of 25 per cent failures. The cases I have presctned to you have been instances of non-union of bones of the forearm and in one case in the humerus. The opportunity for osteogenetic stimulation is not as great here as in the large bones or as in the femur. My best results have been obtained in the femur.

THE TREATMENT OF CHOICE IN FRACTURES OF THE SKULL.

By Charles Edward Dowman, M.D., F.A.C.S.,
Atlanta, Ga.

The operation of trepanning is perhaps one of the oldest in surgery. In fact, most prominent in the armamentarium of physicians of all periods were instruments devised especially for this surgical procedure. Also, a recognition of the symptoms of cerebral compression, dates back to the time of Hippocrates. The correlation of the pathological with the clinical phenomena, however, did not begin to be understood until the earlier part of the eighteenth century, when Verduc and Boerhaave demonstrated conclusively that the well known symptoms were due to a definite compression of the brain mass. Leonard Hill, in his article, mentioned Boerhaave's observations on the Paris beggar, who collected money in a piece of his own skull, his brain being covered only by dura and scalp. He writes as follows: "And he would frequently permit experiments to be made for a small piece of money. Upon gently pressing the dura mater with one's finger, he suddenly perceived, as it were, a thousand sparks before his eyes; and upon pressing a little more forcibly, his eyes lost all their sight; by pressing the hand still stronger on the dura mater, he fell into a deep sleep, which was attended by all the symptoms of a slight apoplexy, merely by this pressure of the hand, which was no sooner removed than he gradually recovered from the symptoms as they were brought on, the apoplectic symptoms first vanishing, then the lethargy, and lastly the blindness, all his senses recovering their former perfection."

Without reviewing the various experiments of Cushing, Kocher, Von Bergmann, and others, which have served to elucidate the subject of acute cerebral compression, we

may summarize the points of clinical interest as follows: First: The symptoms of acute cerebral compression are caused by a diminished circulation through the brain of oxygen-containing blood. That the temporary effects of complete anaemia are abolition of the activity of the cortical centers, and stimulation of the automatic centers in the medulla oblongata, is well illustrated by the experiments of Kusmall and Tenner, who, by tying all four arteries, produced an immediate loss of consciousness, and severe clonic convulsions.

Second: Under compression, the obstruction to the circulation begins at the venous side and extends backwards towards the arterial side. As the veins are the natural exit of the cerebro-spinal fluid this also is dammed back, the result being a hydrocephalus. When the veins are so compressed as to cause them to become empty, the capillaries and arterioles are likewise emptied. The resulting cerebral anaemia occurs exactly at the time when the intracranial pressure exceeds the blood pressure.

Third: Life depends on the function of those centers situated in the floor of the fourth ventricle, namely:

(a)—The Vaso-motor.

(b)—The vagus or cardio-inhibitory.

(c)—The respiratory.

Fourth: As soon as the intracranial pressure exceeds the blood pressure the vaso-motor center becomes stimulated. The result is a rise in blood pressure above the intracranial pressure. The medulla thus receives fresh blood, the vaso-motor center relaxes and the pulse curve falls below the compression curve. Again an anaemia is produced and the vaso-motor center stimulated. The blood pressure goes up, and so on. This "life and death" struggle between the compressing force and the vaso-motor center may go on for hours, before the compressing force wins the battle.

Fifth: The respiratory center being depressed during the period of anaemia, we have a slowing of, or a suppression of, respiration. As soon as the blood pressure rises above the level of the compression pressure, respiration again appears. Thus we have the well recognized irregularity of respiration which closely resembles the Cheyne-Stokes type.

Sixth: The cardio-inhibitory or vagus center being likewise stimulated by the progressive anaemia, we have a slowing of the

pulse rate. This is constant because the stimulation is persistent, rather than intermittent, as is the case with the vaso-motor center.

Severe head injuries usually fall into the three following classes:

(a)—Those cases in which there is a generalized contusion of the brain and its envelopes, with or without fracture.

(b)—Circumscribed fractures with or without localized injury of the brain or meninges.

(c)—Those cases in which the character of the fracture and its mode of production are exaggerations of those of group B, and the effects upon the contents of the cranium those of group A.

The cases that fall into class B do not concern us particularly in this discussion. Here we have as a rule a localized depression with or without laceration of the overlying structures. The symptoms vary naturally according to the location involved. Frequently there are no symptoms other than those of the so-called "silent areas." Occasionally, however, one will have symptoms pointing to involvement by pressure on one or more of the active cortical centers. This was well illustrated in one of the depressed fracture cases which I have handled during the past 18 months. In this case the patient had been struck by a brick just above the left ear. On admission to the hospital there was a definite depression in this region and the patient was completely aphasic. On repeated examinations over a period of several hours, his blood pressure remained constant, and he showed no other symptoms of increased or increasing intracranial pressure. After removing the depressed fragments his aphasia cleared up and he made an uneventful recovery. The dura in this case was not opened, as we felt sure that the damage was purely local.

Of my series of six cases of simple depressed fractures treated during the past 18 months, all were operated upon, the operative procedure consisting merely of elevating or removing the depressed fragments, checking hemorrhage and closing the wounds where this was possible. Where the laceration was extensive, drainage was instituted. All cases recovered without any especial trouble. In all cases of this nature treatment as above outlined is indicated.

It is the treatment of those cases which fall under class A and class C in which we

have symptoms of acute cerebral compression, which affords the battleground of many conflicting opinions, and it is concerning the **choice** of treatment in such cases that I wish to promote discussion.

In spite of adverse criticism in regard to decompression in fractures of the base of the skull, Cushing, in a personal conversation about two years ago, claimed that he was still a strong advocate of this method of treatment. In his article, published in the **Annals of Surgery** on "Subtemporal Decompression Operation for the Intra-Cranial Complications Associated with Bursting Fractures of the Skull," he mentioned the following advantages:

- 1 The approach is through the thinnest part of the skull.

- 2 The opening is beneath the fibers of the temporal muscle.

3. A rupture of the middle meningeal artery is thus easily approached.

4. Subdural extravasations, due to laceration of the brain, may be easily drained, as the tips of the temporal and the bases of the frontal lobes are those most often affected.

5. Bleeding from the base is most easily cared for by drains placed under the temporal lobe.

- 6 Subsequent oedema (an almost invariable condition), with its accompanying pressure symptoms, is relieved by giving the brain more room.

- 7 A lessening of unpleasant late sequelae, such as epilepsy, disturbance of memory, neuroses, etc.

Before decompressing such cases, Cushing's mortality was 50%. Since decompressing such cases his mortality has not been over 13%. My own experience during the past 18 months, which consists of seven cases of fractures of the base treated by operation, certainly substantiates his claims in this field of surgery. Of the seven cases, five recovered and two died. One of the latter was a diabetic of several years' standing, who developed a post-operative pneumonia and diabetic coma, and I feel certain that his death was due to these complications. The other case was a negro man, who should be placed in class C, as he had a large depressed fracture, with lines radiating towards the base and symptoms of severe intracranial disturbance. When admitted to the hospital his blood pressure had already begun to fall, showing that the acme of compression had al-

ready been passed. He died a few minutes after the operation was completed. In reality he should not have been operated upon. My enthusiasm over heretofore good results, however, I must admit, blinded my judgment.

The question may be asked: What are the indications for operative treatment? I would answer this question with the statement that whenever careful examination and repeated observations convince one that the brain has undergone enough damage to give rise to an increased intracranial pressure, then the brain should be given room, not only to accommodate the immediate swelling, but to allow for the oedema which is sure to take place during the first few days following the injury. In order to study these cases with a clear understanding, a knowledge of the pathology of acute cerebral compression is necessary—just as necessary as is a knowledge of the symptomatology of infectious diseases. Before determining the character of treatment to be applied, it may be necessary to make repeated neurological examinations, including eye ground and blood pressure observations, covering a period of three or four hours. The following two cases may serve to illustrate the importance of such repeated observations:

E. W., age 15, white, male. First seen at 4:30 p. m., September 16, 1913, immediately after he fell from his bicycle, and had struck his head against the street paving.

Patient was restless, crying, talking at random, and complaining of severe pain in his head. The left ear was almost torn off its attachment to the head, and there was a 2-inch-long cut just above the left ear, extending down to the skull. He was taken immediately to St. Vincent's Hospital, Birmingham, Ala., where the following observations were made:

5 p. m. ($\frac{1}{2}$ hour after accident): Pulse, 100; respiration, regular, and 12 to the minute; blood pressure, systolic 127 mm. Hg.; diastolic, 65 mm. Hg. Eye grounds not injected; **pupils unequal**, the left being larger than the right, though both react to light; no hemorrhage from nose or ears; he vomited soon after the accident, the vomited matter containing a slight amount of blood. Superficial and deep reflexes active and equal right and left.

5:30 p. m.—Blood pressure: Systolic, 135

mm. Hg.; diastolic, 65 mm. Hg. Pupils still unequal. No injection of eye grounds.

6:00 p. m.—Pulse, 80 and regular; respiration, 15 and regular. Blood pressure: Systolic, 115 mm. Hg.; diastolic, 65 mm. Hg. **Pupils equal**, and react to light. Eye grounds normal in appearance. Patient's general mental condition greatly improved.

6:30 p. m.—Under ether anaesthesia the lacerated ear and the scalp wound were sutured.

10:30 p. m.—Pulse, 78; respiration, 15; blood pressure: Systolic, 95 mm. Hg.; eye grounds normal; mind clear.

September 17th, 10:30 a. m.—Blood pressure: Systolic, 100 mm. Hg.; diastolic, 65 mm. Hg.

September 29th—Patient discharged. Ear and scalp wound healed perfectly. Mental condition good. Pupils normal. Reflexes normal.

W. F., age 14, white, male, admitted to St. Vincent's Hospital, Birmingham, in an unconscious condition soon after having been knocked heavily to the ground by an automobile, the accident occurring at 5 p. m., November 21, 1913.

6 p. m.—Patient unconscious; pulse, 60; respiration, 12. Blood pressure: Systolic, 135 mm. Hg. Evidence of bleeding from the nose. No bleeding from the ears. Pupils equal, and react to light. Eye grounds injected, especially on right side. Abdominal reflexes absent right and left. Cremasteric reflexes present, but sluggish on left side. Deep reflexes exaggerated and equal right and left. When irritated patient would move arms and legs; when both arms were passively extended and then turned loose, patient would always flex left arm, but make no attempt to move right arm.

6:15 p. m.—Generalized convulsions, with twitching of all four extremities and both sides of face. During the attack the head was drawn to the left side, and there seemed to be a mere violent twitching of the left facial muscles.

6:30 p. m.—Similar convulsion.

6:40 p. m.—Patient vomited.

7 p. m.—Pulse, 50; respiration irregular and 10 to the minute. Blood pressure, 160 mm. Hg. Eye grounds markedly injected, especially on right side.

7:40 p. m.—Under ether anaesthesia a typical subtemporal decompression was done. The line of fracture was found extending upward from the base. The middle men-

ingeal artery was found to be ruptured. On opening the dura the brain was found to be under considerable tension, and there was considerable venous bleeding from the region of the base of the brain. After a time all hemorrhage had been controlled and the wound was closed in layers, the dura being left open.

The following day patient's temperature was 98.4°; pulse, 72; respiration, 18; blood pressure, 110 mm. Hg. The abdominal reflexes had reappeared. Convalescence progressed smoothly and rapidly, and patient left the hospital eight days after the accident, apparently normal in every respect.

I have introduced these two cases merely to emphasize the necessity of oft-repeated observations before determining the character of treatment to be employed. The first case, E. M., might have been decompressed had I been content with the findings at my office examination. By patiently observing him over a period of two hours, I felt fairly certain that there was no grave intracranial disturbance. After watching him six hours, I then felt quite certain that a decompression was not necessary.

Case two, W. F., serves to illustrate very beautifully the physiology of acute cerebral compression, and the enormous advantage of giving such a brain room. The effect of acute cerebral compression on the blood pressure was also beautifully illustrated in the case of W. R., a white man, age 50, who was operated on by me at the Hillman Hospital, Birmingham, in April, of this year. This patient was admitted to the hospital one-half hour after being knocked down in a street fight, in a semi-conscious condition. A careful examination revealed only two points of especial interest, namely, an active hemorrhage from the right ear, and an absence of the left abdominal and left cremasteric reflexes. His blood pressure was only 120 mm. Hg.; and his pulse, respiration, eyes, etc., were normal, as far as could be determined. The history of the accident, the hemorrhage from the right ear, and the loss of superficial reflexes on the left side, led me to decide to do a right subtemporal decompression in spite of the absence of other symptoms. While we were preparing for the operation the blood pressure was again taken, and was found to be 145 mm. Hg. (one-half hour after first observation, and about one and one-half hours after the accident). Under ether anesthesia the operation was started, and just before the

skull was opened the blood pressure observation gave 170 mm. Hg. (one hour and forty-five minutes after accident). On opening the skull a large epidural clot and a spurting middle meningeal artery were found. On opening the dura an active hemorrhage from the base and also from the region of the lateral sinus was observed. Just after opening the skull and relieving the intracranial pressure the blood pressure dropped back to 120 mm. Hg., and remained there during the remainder of the operation.

That there are cases of fracture of the skull with hopelessly damaged brains, in which operative measures are without avail is, of course, true. Frazier certainly based his adverse criticism to decompression on the observation of such cases. When the injury is so severe as to preclude the compensatory activity of the vaso-motor center the blood pressure falls, and decompression will not prevent a fatal termination.

The part that oedema plays in these traumatic conditions is evidently an important one. Cannon, in his experiments on cats, in which various head injuries were produced, observed that the normal cerebral pressure is about 13 cm. of water. After injury the brain pressure may rise to an average of 25 cm. of water. Since this increase is not sufficient to account for the symptoms present in clinical cases, there must be other secondary processes causing increased pressure. The secondary increase in pressure is due mainly to three factors: Deprivation of the normal nutrition in injured parts; passage of fluids into these parts with subsequent swelling, and the rigid inclosure of the brain, causing the swelling in one region to effect markedly neighboring regions. The thrombosis, extravasations and hemorrhages, which accompany contusions, impair the blood supply of the injured region, especially since the nutrient arteries of the brain are terminal. Brain tissue, deprived of blood, undergoes chemical changes, resulting in greater internal osmotic pressure, and the passage of fluids into the tissues. The swelling which the tissue undergoes must cause it to compress neighboring regions, and thus further impair the circulation so that new regions are involved in the process. Thus a vicious circle is established.

It is quite probable that blows which do not cause fracture may produce in a milder degree the same effects. Adami, though admitting that in so-called "concussion of the

brain" the nature of the lesion is obscure, claims that in some cases multiple small hemorrhages are noted. According to him, it is probable that the injury leads to rupture of the finer capillaries, solution of the continuity of certain nerve paths, and degenerative changes in the fibers and ganglia.

The questions which the above experimental, pathological and clinical evidence suggests are these: Would it not, perhaps, be justifiable to decompress all cases of cranial injury, even including severe brain concussion, in which repeated observations of the blood pressure show a gradual rise? If we give the oedematous brain room, would not the injurious influences on vital centers be removed? Still more far-reaching, would not the distressing condition of traumatic neuroses, epilepsy, etc., so often observed in those who at some previous time had suffered a severe head injury, be, perhaps, prevented by interrupting the progressive damage to nerve tissues, which an oedema under pressure is apt to produce?

Within the past two years I have had quite a number of patients consult me for various neurological disturbances, in whom the history of fracture of the base of the skull could be elicited. None had been decompressed at the time of the accident, and the epilepsy, loss of memory, etc., of which they complained were doubtless the results of the degenerative changes caused by the oedema and increased intracranial pressure following the primary injury.

One of the cardinal principles in the treatment of fractures of the long bones, is to avoid the use of dressing which will not allow for the swelling which is sure to follow the injury. If we have such respect for our legs and arms, surely our brains should deserve similar consideration.

In conclusion, I wish to emphasize the following:

1. That a thorough understanding of the pathology of cerebral compression is necessary in the diagnosis and treatment of acute head injuries.

2. That repeated blood pressure records and ophthalmoscopic observations, in addition to the usual neurological examination, should be done in every severe head injury before determining the character of treatment to be employed.

3. That all cases of serious intracranial injuries be decompressed, excepting those in which the acme of compression has been

passed, and in which one has every reason to suspect that the brain has been hopelessly damaged.

1627-28 Candler Building, Atlanta, Ga.

SUGGESTIONS FOR AROUSING AND MAINTAINING INTEREST IN COUNTY MEDICAL SOCIETIES.*

W. C. Lyle, M.D., Augusta, Ga.

An experience of five years as your state secretary, a close observation of other state associations, and inquiry into the methods adopted by successful societies composing our organization, prompts me to make these tablet form suggestions.

Most of my suggestions will be for the small society, as they are so much more numerous, but I want it distinctly understood that as a general proposition, they need it less than the larger ones. Of course, it is comparatively easy to have meetings with regularity, and always have a program of more or less interest, where there is a large membership of physicians with varied lines of work, but I can point out some societies in Georgia, in counties where there are not more than a dozen physicians, who are doing just as good and conscientious work, even though not so brilliant, as is done by any of the larger ones.

The interest manifested by the members of these small societies is to me, most gratifying, and each year they retain their full membership.

If one county keeps up a good society and the adjacent county under practically identical conditions has no society at all, or at best only a few members, who take a half-hearted interest in society affairs, it can only be due to different methods of management, and I have for some years made inquiries concerning the methods adopted by our successful societies and feel that the Association is entitled to the result of these investigations.

Naturally my first observation was as to the officers of these societies. If the old army saying, "A Company Smells of Its Captain," is applicable, then all the more will it obtain with the Medical Society and its captain. A president and secretary truly imbued with society interest will make a good local organization without effort on

the part of any one else. This may seem a rather broad statement, but I make it advisedly and with the deliberate intention of impressing you with the ease with which you may have a good Medical Society—simply elect as your officers those men who show most interest in medical organization, not always the most scientific man, not always the most brilliant surgeon, not always the best story-teller or hand-shaker, by no means the best money-maker, for he may be selfish, but the man or men who have the general interest of the profession at heart and are willing to make some personal sacrifice for the general welfare.

The secretary should not always be as is too often the case the youngest man in the society; the president is the balance wheel of an organization, but generally speaking the secretary is the mainspring, and he should have a few years' tempering. "He must be a good, all-around man, who commands the respect and confidence and support of all members. He must be a hustler, not afraid of work or the midnight oil. His constant desire must be to win every worthy man for the county organization. His aim must be to pull off a good meeting at regularly stated times so that all those who attend may return to their work with the profound conviction that the time sacrificed was well spent and that they can take up the thread of life and go triumphantly on."

"The practice of medicine is in the throes of a revolution at present, and this is likely to continue until medical men themselves begin to stem the tide that has set in against them. The society of yesterday was an association brought into existence for the purpose of stimulating intellectual and scientific research. These aims were sought to the exclusion of all else. The society of today and tomorrow must seek these ends first, but must seek others in addition, and probably in larger degree as time goes on. The writer is not imbued with the idea of commercialism, but he does think that the medical man will not always continue to take, without protest, what is handed him by the politicians of the day. The county society must vouchsafe to its members an increasingly large element of protection against hostile legislation, against quackery and irregular practice of all sorts if it continues to hold its place as the recognized agency representing the physician. Should it fail to do this then the doctors may be compelled in

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

the future to form a closer, more comprehensive organization—perhaps a union, which will subserve the ends sought. Wherever the physician finds that the society with which he allies himself represents him as a physician, as a legal practitioner with whom the state must reckon in its legislative program, as a man who has a business to conduct in the interest of himself and family and who can not possibly live on ‘free air’ and ‘many thanks’ for all the public and charity work which he is expected to perform every year in addition to all that he does in his own practice, then we believe the society will deserve and receive a membership that will leave nothing more to be desired by the county secretary.”

Doctors will retain their membership and attend the meetings of their county societies if they feel that they are getting value received. There is only one exception to this general rule—the ignoramus, commonly known as the “four-flusher,” who pretends that he learns nothing by attending a society meeting—his real reason for staying away is the fear that his confreres will ascertain how little he really does know, while he has hypnotized himself into believing that his brag and bluster have impressed the public with an idea of his great wisdom.

The average man asks himself the following questions: “Why should I part company with the amount of the annual dues? Why should I take the time from the many things that demand my attention and turn my steps toward the place of the society meeting?” These are reasonable questions. Are the county societies prepared to give satisfactory answers? In many instances not, and these are the instances I wish to impress with the result of my observations. Make your meetings worth while. Give value received. If you can not give value in compensation for the time expended in twelve meetings per year, perhaps you can for six, certainly four. I believe the society, with a small membership, will do better and more satisfactory work holding quarterly meetings than monthly.

Have an annual program and issue it at the first of the year. Let every member know exactly what paper will be read at each meeting and who will read it. Designate on the program at least two members to lead the discussions of each paper.

Nothing will stimulate a man to make investigations, or look up the literature of a

subject more than to know that he will have to get up before a gathering of doctors and show that he either does, or does not, know what he is talking about. It occasionally happens that this will stimulate attendance, as some members will go in order that they may learn how little a certain man may know about a given subject, but on the whole it does a great amount of good and often those who come to scoff will stay to learn.

Invite men well informed on certain subjects to visit you and address you at least four times a year. I assure you, you will have no trouble in getting as many speakers as you will want.

It is surprising how willing those men engaged in consultation work will be, to go out to your town and enlighten you, and you will often learn this gratifying fact—that you know just as much as they do.

But again you will make your members feel that they are getting value received.

Have a business meeting at least once a year.

As stated before the function of the Medical Society is not wholly scientific.

Talk over the business sides of your lives. See if you are getting value received outside your society as well as inside. I am glad to see the disposition on the part of many societies to take up the question of reasonable fees, non-payment of bills, etc. Discuss legislation that may affect your profession. Even invite your representatives and certain county officers, such as commissioner of education, ordinary, etc., to attend and participate in your discussions at this meeting. Request your leading attorney to address you on such subjects as “Expert Testimony,” “The Doctor as a Witness,” “Privileged Communications, Etc.” He may even discuss the collection of accounts by legal process.

At least, at your annual meeting, which should be held in December of each year, have some refreshments. In small towns it is better to have such a meeting in the dining-room of a hotel, after the regular supper hour, and transact business during the progress of the meal. A Doctor, like most other animals, is in better humor after he is fed.

Another suggestion is to see that your officers do their full duty. You have honored them, and you are entitled to service. Too often the Society feels that it is wholly the officers’ duty to make things go, and this is in a sense true, but it is your duty to make

the officers go—either figuratively or literally. See that your secretary sends complete reports of your meetings to your State Journal for publication. The papers read at your county meetings are the property of the Association, and are entitled to publication in The Journal. See that your secretary sends them in. Consider your membership card as the merchant considers his rating by Dun or Bradstreet. It shows that you are entitled to the confidence of the public.

If every man here will only recognize that these suggestions apply to him personally and not to the other fellow, he will, I fully believe, have a better county society next year than this, and your reader's dream will become a reality.

THE NECESSITY OF A STATE PROSECUTOR TO ENFORCE STATE MEDICAL LAWS.

Dr. J. W. Palmer, Ailey, Ga.

The powers given the present State Board of Medical Examiners of Georgia is more preventative than curative. Their duties are to see that nothing but reputable, qualified and legal practitioners be licensed to practice medicine in the State and to revoke the license of those physicians who violate certain sections of the Medical Practice Bill. The only section in this bill that touches on this line is the following: "It shall be the duty of the secretary and treasurer, under the direction of the board, personally or by deputy, to aid the solicitors of the State in the enforcement of this act and in the prosecuting of all persons charged with violations of this provision." You readily see it is impossible to have the violators run down and convicted under the present circumstances and conditions.

With the present law the State of Georgia is absolutely protected from the entrance of any more unqualified and illegal physicians. What we want and need now is to get rid of those already in the State. Our medical laws prior to the passage of our Medical Practice Bill were so lax, and the laws of other States so rigid, Georgia has been the dumping ground for quacks, fakirs, charlatans and illegal practitioners who came in droves, as many as sixty at a time. There is not a physician under the sound of my voice who

does not have in his mind some quack or charlatan in his territory preying upon the health, happiness and pocketbooks of his would-be patients and interfering with his honest scientific work. I have them. If the local physicians prosecute them, the victims will play on the ignorance and prejudice of the people, by claiming that they are taking our practice from us which makes us jealous, and that it is persecution. In this way they are advertised and benefited by our having prosecuted them. Having all these things in our mind, and perhaps personal encounters, we had rather let them alone than to be subjected to all kinds of criticisms and then perhaps accomplish nothing.

We can expect nothing from the courts unless the profession of the State gets behind the Medical Practice Act. I want to congratulate my old congressional district—the Eleventh—for the movement it has started in the right way. If it is not possible for us to get some legislation on this line, I would be glad to see the State Medical Association, other Congressional District Societies and every County Society pass resolutions similar to the Eleventh Congressional District Society, which is as follows:

"Resolved, that we, the Eleventh District Medical Society, in convention assembled, do hereby urge upon the judges of our superior courts to give in a special charge to the grand jury at each term of court the Medical Practice Act, and insist that they emphasize to the jury the dangers to health and even to life of the victims of these people, as well as its effects upon society and the pockets of these unsuspecting victims; and be it further

"Resolved, that we urge that, in case of conviction of any of these charlatans, they be given chain-gang sentences, as it is evident that small fines would not deter them from further operations; and be it further

"Resolved, That these resolutions be spread upon our minutes, and that a copy be sent to each judge of superior, city or county court in this district."

What we want is legislation providing for a state prosecutor whose duty it will be to canvass the State and turn up these violators. Then the laity would see it in a different light and would make it impossible for the victims to cry out jealousy and persecution. In this way conviction and punishment would be easy, certain and effective, and these violators would soon vanish from

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

the State and seek States whose laws and enforcement were not so strict.

The druggists have an inspector going over the State preventing drug stores from violating their pharmaceutical laws; the dentists have a plan operated by their State Dental Association by which they have special members as representatives for certain territory whose duties it is to see that no unqualified dentists practice in their territory. However, they are very anxious to have a State prosecutor and co-operate with us in getting one in common.

How a medical prosecutor could be best provided for I do not know. I leave that for the Association to say. However, I thought, perhaps, something of this kind would be at least suggestive.

First: To have some legislation that would broaden the scope of the present State Drug Inspector so as to have him prosecute illegal practitioners in medicine and dentistry.

Second: Legislation creating a prosecutor for the dental and medical profession.

Third: Have a State Medical Prosecutor whose only duty will be to canvass the State and prosecute, convict and see that the proper punishment is inflicted and executed upon those violating the Medical Practice Bill. The conviction would be easy, as the local profession will only be too glad to furnish him with facts and evidence. Let this prosecutor be provided for, say, five years, or at least until the field is covered and all illegal practitioners removed. After this the work could be kept up easily by the profession, State Medical Association or Board of Medical Examiners. The expense it would incur upon the State would be more than compensated for by the fines that would be turned into the State by such an officer.

I would suggest that there be a committee appointed from this Association to act jointly with a similar committee from the Pharmaceutical Association and Dental Association whose duty it shall be to solve this problem in the most practical and feasible manner. That said committees report to our regular committee on public policy and legislation and that they assist them in securing proper legislation.

An advertisement in The Journal of the Medical Association of Georgia will bring results. Rates sent on request.

DISCUSSION ON THE PAPER OF DR. PALMER.

Dr. L. C. Allen, Hoschton: I understand we have the honor of having with us this afternoon a distinguished member of the dental profession, Dr. Callahan, who is a member of the Board of Dental Examiners, and I would like to ask unanimous consent that Dr. Callahan be given the privileges of the floor during the discussion of this paper.

Motion seconded and carried.

Dr. Callahan: I wish to thank you for this opportunity and privilege of saying a few words to you on this subject.

I am very glad that Dr. Palmer has seen fit to take up this matter with this body of professional men, and I desire to put my approval on what he has said regarding the lax methods employed in stopping illegal practitioners of medicine. The members of the board should be prosecutors. The law authorizes them to pass upon the qualifications of applicants and to issue licenses; the profession, as a whole, feel that these matters should be taken up by the different members of the Board of Examiners. We have some advantage over the medical board, in that we have fewer dentists to deal with. Our hardest work is to keep clear of illegal practitioners.

I want to relate an incident in this connection. In our county there are about 20,000 people. I was walking on a street in my town with a friend of mine, who did not know I was coming to this meeting. He said, "Well, doctor, how are you feeling? The grand jury is in session this week, and there are five illegal practitioners in this county, and not a word said about it." As to these illegal practitioners I do not know who the men are back of them, but they are sufficiently well grounded in the good opinion of the community as to get the grand jury to handle them. We do not need to do this when a man is authorized to practice dentistry and medicine. The laws have been changed many times. I agree with Dr. Palmer that a method of this kind, such as he has proposed, will meet with the hearty support of the Dental Association, which meets in June, and if the Medical Association of Georgia will carry out his suggestion, we will back it up and see what there is in it.

With regard to the pharmacy law, as the result of it, the druggists are accomplishing

wonders. Things are being done now in a more legal way. The same thing should apply equally well to illegal dental and medical practitioners in the State.

Dr. A. F. White, Flovilla: I have had the pleasure of serving on the board two years with Dr. Palmer, and I heartily indorse what he has said, and I know some of the difficulties under which we have labored during these two years in this line. It is a very hard matter to go into a county where you have an illegal practitioner who, as the doctor just said, is well established in the minds of the people, and if the doctors in that community who are legalized to practice medicine under the laws of Georgia, endeavor to prosecute the man who is practicing illegally, the public are ready to criticize these doctors. I know that from experience. I have letters frequently from all over Georgia asking if this or that man has the right to practice medicine in our state. Of course, the board is not in a position to know all of these facts, but it is our duty to investigate and find out, and frequently it is a hard matter to make a thorough investigation. I know of one or two instances in which it has been clearly demonstrated and proven that doctors were practicing medicine illegally, and the attention of the prosecuting attorney was called to this fact and he even passed over that notice. What the cause of this was I can not say. It carries out the old saying, "It is a wheel within a wheel and politics play an important part." If a solicitor is out and expects something in the future, he is going to be very careful who he prosecutes. I know of one instance in which the prosecuting attorney refused to prosecute a man on that account because of his political influence in the county in which he lived. If this feature was eliminated, and we had a man whose business it is to look over the State of Georgia the same as we have a drug inspector, who inspects druggists twice a year, greater good could be accomplished. If the Dental Association and Medical Association of Georgia could bear this expense between them, this work might be carried on. At least, it would be a great help, and I want to say finally that we need a prosecuting attorney very much.

Dr. McCurry: In my experience, I have found that the officers and people of Georgia are very slow, very slow to help a doctor out when it comes to prosecuting an illegal

practitioner of medicine. We should try to find out what the inclinations are of our representatives before they go to the legislature in regard to having a certain bill or certain bills passed. We beat the representative of our county last time. We wanted him to vote for a certain thing which the profession urged him to do because he had influence in the county and in the legislature. I asked him to help us out, and he would not do it, and then I promised myself that I would defeat him if I could. We defeated him.

I think this is a very important matter, and it is like Dr. Callahan says, we are troubled much more in the country than you are in the cities.

Dr. Nolan: If we could get a state inspector or prosecutor, or if it was possible to get through the Georgia legislature a bill creating a medical inspector or prosecutor, and get them to pay him a sufficient salary to go over this state from one end to the other and look up these cases, it would be a good thing, but to get the legislature to pass this bill and also to make an appropriation for it, those of us who have had any experience with legislation know we would have a rather difficult job on our hands. I think it would be a good thing if we had him, but we already have the legal machinery to handle a man who is practicing medicine illegally. It is not a difficult task to find out whether a man is a legal practitioner or not. If he is registered and has a medical diploma prior to December, 1894, it is on record with the clerk of the superior court in the county where he practices. Since that time the law requires that he shall have a license. As to whether a man is an illegal practitioner or not, one can simply find it out by writing to the secretary of the State Board of Examiners, who will get letters from doctors as to whether Bill Jones or John Smith has a right to practice in his county. Or he can write to the clerk of the superior court and find out easily whether he is or not. If a man is an illegal practitioner, he can be found out, and I do not believe there are a great many of that kind in the state who are regularly engaged in the practice of medicine. Of course, there are a few, and the best way to handle these cases is for the county society to do it. The responsibility should not be thrown upon any individual practitioner. If a practitioner wants to prosecute a certain man for the illegal practice of medicine it

should be done by the county society. Let them pass resolutions or investigate the particular man, and then when they have the evidence go before the grand jury and have him indicted. As I have said, we have plenty of legal machinery to prosecute any illegal practitioner in the state. A man very often will write me a letter saying that John Smith is practicing medicine illegally, but he says, do not mention my name in connection with it. That man is afraid to go before his own grand jury and tell the grand jury that John Smith is practicing without a license. It seems to me, he ought to have a little backbone to go before the grand jury and have him indicted. If he can not or will not do so, then let the county society get behind him. Perhaps that is the best way to do it, and if you have illegal practitioners in this state, each county medical society can weed out if they will take hold of the matter. This other way would be a good one to get the legislature to give you the money for it.

Dr. J. E. New, Dexter: What Dr. Palmer has said in his paper is true. What Dr. McCurry has said is correct. I know of some of these cases. Dr. White is correct. Dr. Nolan probably lives in a vicinity where he is free from these illegal practitioners, but when he says there are not many over the state, he is badly mistaken. In some sections there are as many quack doctors as there are regularly licensed physicians, and I know some of us will be accused of having rubber spines, but we simply will not get behind them. We can not afford to do it. When you find your patrons are anxious to remind you at the first opportunity that this doctor or that doctor has brought about remarkable cures that have been magnified in the eyes of the people, and these cures have spread like wildfire all over the country, if you say anything against these doctors or the cures they are said to have brought about you are accused immediately, and the effect is so humiliating and so far-reaching that you can not get over it. It is a matter that results not altogether from a lack of courage, but we know that there is a certain amount of lamentable and pitiable ignorance on the part of these people and the average doctor can not afford to be bothered with them.

I indorse the paper and at the proper time I will make a motion that a committee be appointed so that they can thresh it out

during the next year and see what can be done.

Dr. Palmer (closing): I appreciate what has been said on my paper. I want to say in this connection that the distinguished secretary of the State Board has done his duty as far as possible and has done it well. I know of several instances where he has left Atlanta and gone as far as fifty or one hundred miles to investigate some illegal practitioner and has taken measures to see that he was properly prosecuted, and I do not think as a secretary of the board there is any man who could beat him. He is trying to carry out the law as it is laid down.

Dr. Callahan has told us that the dental profession is not troubled with these illegal practitioners to the extent that the medical profession is. Dr. Nolan lives in Marietta, and that is about the same as Atlanta.

I want to congratulate the Atlanta physicians on the campaign they have instituted against illegal practitioners. I will ask if any man here knows of an illegal practitioner in his county, and if he does to hold up his hand. I see that a doctor from Forsyth holds up his hand.

As to the county Medical Society taking hold of these illegal practitioners and trying to have them prosecuted, I think it is a good suggestion. The county physicians are trying to enforce hygienic laws. They try to get appropriations to enforce the laws in the county, and you know what an experience that is.

In speaking of our county we have some there, and some bad ones. I had a telephone call to the effect that a certain doctor wanted me at the phone. I went to the phone and this doctor said to me, "Dr. Palmer, don't you think you had better quit talking about me?" I hung up the receiver and said "Good-bye." You can get into trouble by prosecuting some of these men. We know that the practice of medicine is an imperfect science. These fellows can practice medicine as long as they do not kill anybody and are going to have followers, and you could hardly get a jury who would convict one of these men simply because many of them have been treated by them and by their methods, and no doubt some of these men have been benefited as much by these illegal practitioners as they have by the treatment instituted by regular practitioners, and there is no way to reach them unless we have a man to go

over the state, who has no interest whatever in local affairs. For instance, in my section, if I were to go to work and try to have illegal practitioners prosecuted for violating the law, the public would see it in a different light, so it is hard to tell what to do.

THE INJECTION OF ALCOHOL INTO THE SUPERIOR LARYNGEAL NERVE TRUNK IN PAINFUL LARYNGEAL TUBERCULOSIS.*

By E. C. Thrash, M.D., Atlanta, Ga.

There is nothing more problematic to the phthisiologist than the attempt to control pain in advanced tubercular laryngitis, and nothing produces more commiseration on the part of the patient. The pain which he is forced to endure makes him so miserable and so unhappy that he becomes embittered toward himself and every one who is attempting to relieve him. One shudders when he thinks of the patients of this type which he has been so unfortunate as to have treated, and anything which even partially relieves the condition is a boon both to physician and patient.

From the writer's experience there is no such thing as primary tubercular laryngitis. Every case which he has handled has shown evidence of a primary pulmonary infection with a secondary laryngeal. What surprises one is that so few tubercular infections of the lungs later reach the larynx, in view of the fact that the cilia which are constantly waving toward this organ and bringing up tubercle bacilli from infected areas below, stop at this point. Their further removal must be produced by voluntary action. The consequence is that germ-laden sputum is constantly drifted against the under surface of the vocal cords where it remains banked and gives the best possible opportunity for tubercular invasion of the larynx. Tubercle bacilli can not find a resting place sufficiently long upon the glazed surface of this structure by being inhaled and reaching the larynx from above instead of below, as it has been definitely proven that they must have a resting period of from ten to twenty days before they begin to grow and establish proper environments to form a tubercle. So whenever one has tubercular laryngitis with which to deal he also has to deal with either

an arrested or an active tubercular pneumonitis.

This process starting around the vocal cords usually progresses more or less rapidly upward invading portions of the larynx above and passing to the epiglottis from which it reaches the base of the tongue. The excruciating pain usually does not start until after the glottis and epiglottis have been invaded, it being produced by the base of the tongue pressing the latter organ down upon a still more eroded glottis. The coaptation of these two structures after this has taken place is imperfect, allowing particles of food and fluids to pass in between them which adds to the pain. After the tubercular process passes further forward and invades more of the tongue, together with the pharynx, the treatment which we are herein discussing will be of no avail because structures are affected which are not innervated by the superior laryngeal nerve; therefore, this treatment is futile when there is an extensive invasion of the fauces. When the disease is confined to the larynx, epiglottis and base of the tongue, it is absolutely effectual.

The technique is simple and can be carried out by any one who will use sufficient care and judgment. In descriptions of injecting nerves with alcohol there are usually specific and minute instructions given whereby one can make the injection directly into the nerve trunk, and the impression is left that unless the point of the needle is within the trunk the treatment is ineffectual. This is in nowise true and one could not, once in a thousand times, with perfect knowledge of the anatomy of the area, and the best technique possible, place the point of his needle, which is as big as the nerve itself, within a nerve trunk buried deeply under other structures. Any description of a technique in which this can be done is too absurd to be considered seriously. The alcohol spreads rapidly around the point at which it enters the structure, and it has not become sufficiently diluted, in the writer's opinion, at a distance of something like a quarter of an inch from this point so that a nerve trunk traversing the area would not be made at least temporarily inactive. If this were not true alcohol injections would rarely ever be effectual, whereas they almost invariably are.

The technique of the writer is as follows: The skin is well sponged with alcohol, one-half cubic centimeter of a 1 per cent solution of cocaine is injected at each point

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

where the alcohol is intended to be inserted. The syringe is thrust directly inward until a click is felt, which shows that the thyro-hyoid membrane has been punctured, then force the piston of the syringe forward, and at the same time gradually withdraw the syringe, inserting one-half cubic centimeter of the solution by the time the syringe has reached the skin in being withdrawn. Both sides are injected with cocaine before starting with alcohol. With the same syringe one to one and one-half cubic centimeter of alcohol is taken. The location of the point of insertion is found as follows: Have the patient to throw the head slightly to the opposite side and backward, press the finger firmly between the hyoid bone and the thyroid cartilage, move it backward until the superior cornu is felt, then at a point halfway between the hyoid bone and the thyroid cartilage and about one-fourth to three-eighths inch in front of the cornu insert the needle. Before inserting the needle, however, press the finger firmly down just posterior to it until the pulsation of the carotid artery is felt. The needle should be inserted just anterior to the finger tip resting upon the pulsating carotid. This not only gives the right place to insert the needle, but it safeguards one against puncturing this vessel—a procedure which would not be dangerous, but should be avoided. The needle is thrust directly inward quite slowly for something like one-half to three-fourths of an inch owing to thickness of superstructure, at which point the click of the passage of the needle through the thyro-hyoid membrane is usually felt. Do not go beyond this as the alcohol might be inserted into the glottis. Here, press the piston forward until one-half of the contents of the syringe is inserted, then withdraw it, injecting the remainder just as the point is withdrawn from the thyro-hyoid membrane. In some instances the writer has swung the syringe around forming a circle of about one-fourth inch with the needle injecting the alcohol at about four points around this circle. This diffuses the alcohol over a greater surface, and will make the procedure more certain, but when this is done it is necessary to use more alcohol and one should inject about one cubic centimeter before bringing the syringe to the outer side of the thyro-hyoid membrane. When the nerve is being properly infiltrated the patient usually complains of pain in the ears and sometimes in the teeth.

This treatment gives immediate relief. The patient who may not have swallowed comfortably for months previous will tell you that he swallows with ease immediately after the syringe is withdrawn. There is some soreness in the neck for a few days after the treatment, but it gives practically no discomfort. The only danger is thrusting the needle into the glottis and producing oedema of this structure. This is the thing that must be carefully guarded against because if the alcohol should be injected into the glottis on both sides it is possible that an oedema might be produced so severe that breathing would be seriously impaired. The writer, in one instance, had an oedema which was quite painful and distressing for four or five days.

The unfortunate thing about this treatment is that patients who require it are always hopelessly ill, and the only thing to be accomplished by it is to give them comfort for the remainder of their days. The length of time which each injection is effectual is quite variable. My experience is that it has covered periods varying from two weeks to two months, but when the patient begins to complain of difficult swallowing after treatment it is time to give another, let it be one week or two months. If the patient's pain is not relieved it is due to one of two things; the nerve has not been infiltrated or the tubercular process has invaded structures in the fances beyond the reach of the superior laryngeal nerve. If the latter condition exists the treatment will always be futile, but if due to the former, a second injection properly administered, will give relief.

Of all the agents that has been used in the attempt to relieve this condition nothing has proven of any avail in the writer's hands except this. The only good that he has accomplished by other means has been to satisfy his patient that efforts were being brought to bear to relieve his commiseration, although these efforts always have been failures, and when the alcohol injections have been resorted to, both the sufferer and all those who have previously been made miserable by seeing him suffer and not able to relieve him, have been made happy.

DISCUSSION ON THE PAPER OF DR. THRASH.

Dr. Arch Elkin, Atlanta: This is a subject that should interest those who come in contact with tuberculosis. Fortunately,

laryngeal tuberculosis, we know, when compared with pulmonary tuberculosis, is rare. When it does exist, the misery and discomfort these patients endure is appalling. I have not had any personal experience with this method, but I have had an opportunity to observe several cases of Dr. Thrash in which he has injected alcohol into the nerves for this condition, and the results are almost instantaneous and just as efficacious from the standpoint of relief of pain. Patients, who have not been able to swallow for months on account of the pain being so intense and constant, after the injections are able to swallow. They experience immediate relief, so that they will tell you they are able to swallow for the first time in months, and will immediately ask for something to eat.

I believe the time will come surely when this procedure described by Dr. Thrash will become a common practice in this particular type of tuberculosis. These patients furnish a very distressing type of tuberculosis; in fact, one of the most distressing with which we have to deal, and anything that will give temporary comfort is one to be considered. It is one of the spectacular procedures that gives definite results, and the profession should consider it seriously, and I believe in a short time it will become a common practice.

Dr. A. H. Bunce, Atlanta: It was my pleasure to be associated with Dr. Thrash for two or three years in his work in tuberculosis, and during this time there was no method suggested with reference to tuberculosis which was not investigated thoroughly and tried in suitable cases. This particular treatment, which has been suggested and tried by him, has been very successful. He has practiced this method since I have not been associated with him, but I have observed the results in some of his cases where the tubercular process had invaded the larynx.

He did not mention the fact that the larynx becomes infected through the blood channel as well as the lodging of tuberculous sputum on the larynx. That is an important way in which the larynx may become infected. These patients nearly always have advanced pulmonary tuberculosis before the larynx is involved, and those who have seen these patients trying to swallow, while looking fairly well in other respects, will find that the fluid, which is generally milk, comes out through the nose and causes pain. They

have the most excruciating pain possible. Morphine affords these patients some relief, but spraying cocaine solution on the larynx does not relieve them materially, and they perish eventually because they can not take any nourishment. Anything that will relieve this class of sufferers should be tried. It is a great palliative measure that has been brought before us in the treatment of tuberculosis in recent years. It is palliative and not curative, because these patients die just the same. At the same time, it is up to you to give relief while the patient is still living. Where the larynx is only involved, where the pharynx is involved, and the area is not encroached by the superior laryngeal nerve, the results are not good. The nerves are not reached, and they have pain in swallowing, but where the process involves only that part of the larynx supplied by the superior laryngeal nerve, the result from the injections is absolute.

These injections of alcohol have been used as a general procedure in cases of trifacial neuralgia; the dental nerves have been injected, and why should not the superior laryngeal nerve be injected to prevent the pain incident to this class of cases in swallowing? To locate the nerve is sometimes difficult, but, as pointed out by Dr. Thrash, it is unnecessary that the alcohol be injected directly into the nerve; if it is injected near the nerve it will constrict the nerve and have the same effect as if it is injected directly into the nerve itself.

Dr. Thrash (closing): I have nothing to say except that I dissected some of these nerves at the Grady Hospital before I attempted the alcohol injections, and before I started to use the alcohol I had a patient who was suffering intensely and was anxious to get relief. I could do him no good, and after something like three weeks, I located the nerve in a satisfactory way, gave him a treatment, and he felt perfectly comfortable, so that the next morning he was able to swallow very well. He told me that he was going to leave the institution, and I asked him for what reason, and he replied: "You have kept me here suffering for three weeks, and you could have relieved me in five minutes, and I am going away this afternoon." Of course, I let him go. There is no argument against a thing of that sort.

As to hematogenous infection, it is a frightful sort of tubercular infection. It is

produced by plugging of the capillaries under which condition there is partially good structure or weakened structure, so that the tubercle bacilli will have time to establish tuberculosis. We rarely see a tubercular condition in tissues that have collateral circulation. You do not see tuberculosis in a muscle. You do have it in the skin because the tubercle bacilli get buried up in the pores of the skin and establish the tubercular process. There must be a resting period of from one to twenty days before tubercle can be established. It is possible to have hemogenous infection of the larynx, but my experience has been that it follows pulmonary tuberculosis, and you do not get hematogenous infection often from pulmonary tuberculosis unless it is miliary and not generally disseminated from the larynx.

A CRUSADE FOR HEALTH IN WARE COUNTY.

Dr. A. Flemming, Waycross.

This paper probably will sound more like a tribute to The Ware County Medical Society than to any individual, or to the motive behind our activities. It is true, nevertheless, that three or four members of the society in Waycross have been constantly endeavoring to better the health conditions of Waycross and Ware County for a period of many years.

The writer can recall the time when our little city had no health officer, and contagion, infection and epidemic were controlled by the individual physicians, or by the concerted action of those who were most interested, and this was done without any municipal regulations or control. Conditions in the country were even worse, and I am sorry to say until a recent date, have we been able to make any show in the rural districts that would convince the superstitious and the ignorant that conditions could be improved.

It is a sad fact that when a city attempts health regulations, that the effect it has upon the country people who move in or mingle in a business or commercial way, is the reverse of what we would like to have it. In other words, it often causes the people in the country to feel that their liberties are being removed from them, and the even tenor of their way disturbed if the same attempt is made to control health conditions among

them, that is carried on in the city. This creates a fight between the country districts and the city health officers, and is manifested in every contact that is brought about by the relations of the individuals.

The writer can remember our first regulations in Waycross toward the inspection and examination of food products and the dairies. In 1906-1907, The Ware County Medical Society, or certain members of it, became active in this matter, and a body that we called a "Milk Commission," was established. The writer being secretary of the local Society at this time, naturally the work was thrown upon him; this work was started without any city ordinances to control it, or any one in control of health affairs representing the city to help us put it in force. This commission's duty was to inspect the dairies about the city, and in the best way possible determine if the different forms of disease that cattle may have, was present among them. We inspected the general sanitary surroundings and suggested whatever improvement that we well could without having ordinances to enforce our measures. A small laboratory was fitted up in town and the milk dispensed by each of these dairies was inspected and a general cleaning up in the places of business, both of the dairies and the dispensing plants in Waycross. It is unnecessary to relate in this paper the experience of this commission in its work with men who felt that their product was perfectly clean, and where an inspection of it was, in their minds, a matter that involved their liberties and deprived them of pursuing their line of business as their knowledge of sanitation dictated. It is enough to say that dirty milk was found coming from every dairy; that unclean milk was being used by nearly every household in Waycross, and milk containing nearly every form of disease possible in this fluid was being dispensed at the soda founts in our city.

The work of this commission was so successful and convincing to the city officials and to the people as a whole, that ordinances were passed legalizing our work, and within a few months a city health officer was appointed and our laboratory and general routine of work was placed in his hands. The Ware County Medical Society had instituted a work and carried it on successfully to the point that the city officials felt the need of

*Read at meeting Eleventh District Medical Society.

it, and adopted a measure which has meant better health in Waycross.

Following this, or during the year 1908, the Anti-Tuberculosis League was formed and had as its president, Dr. R. P. Izlar. The same men who worked in behalf of the milk commission were most interested and active in this work. We had the regulation cards printed concerning expectorating on the streets and in public places, and these were placed in all conspicuous places, and results were soon noted. Public lectures were given during the summer months in all sections of the city to both white and colored, instructing them how best to fight the great white plague and keep the infection under control with individuals known to have it. Through the work of this league we had the sanitary drinking spouts placed in all the public parks in Waycross. Monthly lectures were given school children and individual lockers and drinking cups placed in all the school buildings. The exchange of second-hand books among the school children was prohibited. Happily through a very earnest and active school board, with Dr. J. L. Walker as a member, our work in this line was more easily effected than our attempt with the milk commission. It is true, however, that a growing knowledge was taking root among the people of the city, and health suggestions did not meet the same abuse and objections as before.

Our next move came when the Rockefeller fund was distributed. Just here, the writer wants to take occasion to say that this fund was one of the greatest boons to health that the South has ever been blessed with, regardless of the opposition that had been waged by certain newspapers and from one or two men prominent in church circles in our State, and we feel that if they could have seen this matter in the broadest sense, that no effort would have been made on their part to retard the efforts of the men in charge. The writer wants to say, too, that this work, in the hands of Dr. A. C. Fort, has been most successful, and no man could have carried on the work with more diplomacy to meet the opposition, nor with more efficiency to secure results than he has.

By the time this fund was ready to be used, the earnestness of The Ware County Medical Society had attracted the attention of the State health officers, and particularly the men in charge of this work, and Ware County was among the first to secure their services.

We were again fortunate in having Dr. T. F. Abercrombie sent to us to conduct the work in Ware County. With his convincing argument and ready statistics, we had no trouble in securing the appropriations from our county commissioners. During his first round, members of The Ware County Medical Society accompanied him and assisted him in every way possible. More than twelve hundred cases were treated with the usual results, bringing happiness and health into homes where only a short while before it appeared that the Grim Reaper would soon visit and make his call. The people, as well as the physicians, were very much enthused over the Hook Worm Commission, and a few months after his first work was completed, we asked the Field Sanitation Committee to allow Dr. Abercrombie to return and work this county the second time. We felt it would be interesting to him and to his committee to see the results of his previous work, and furnish them new argument for counties less progressive and in need of their work. Our earnestness appealed to them and he was sent to work the county again, and nearly two thousand cases were treated during both campaigns, and Ware is the only county in the State to secure such aid from this commission. To say that the results are marvelous is not enough. One would have to see the changed health and even financial conditions among the people in our county to realize the good it has done them. In the financial report of our county a few days ago, it was shown that we had a greater increase in the agricultural valuation of property than any county in South Georgia. If you could understand how much of our county is covered by water as compared with such counties as Lowndes and Coffee, you could realize that something has taken place to warrant this increase in value. I do not feel that I make an exaggerated statement when I say that the work of the Hook Worm Commission in our county has contributed as much to the activity of the people, and made them better able to till the soil and make their land productive. We feel that good roads and good health, brought to us through the Ware County commissioners and our Medical Society, respectively, has given health and prosperity to people who otherwise would have been lingering now in invalidism and poverty.

As soon as the Ellis health bill was passed before the general assembly, The Ware Coun-

ty Medical Society recognized a new duty, and at the first meeting of the grand jury, after this bill was passed, we secured their indorsement without a dissenting vote. The same committee from the Medical Society met the grand jury at the May term of court and secured their indorsement with only one dissenting vote. One man opposed this measure because he had a grievance against our recently-appointed full time city food inspector, who had condemned some meat he had attempted to sell in Wayeross. As soon, however, as we had their indorsement making the Ellis bill a local law, the State Board of Health was notified, and we had a telegram from that body congratulating us upon being the first county in the State to adopt this measure.

You can imagine our disappointment and disgust, when the country members of this jury lined-up with this original disgruntled one, and defeated this measure the next day. It developed into a fight between the city and the country, as is often the case, and the country members felt that we were again depriving them of their liberties, and attempting to dictate to them how they should live and conduct themselves. Hostilities were, for the moment, called off because we knew there was a time coming when we would have the enemy in retreat.

About three weeks after the grand jury had adjourned and killed our measure, the writer attended the meeting of the State Board of Medical Examiners in Atlanta, and while there conferred with Dr. Fort, Dr. Harris and a representative of the International Health Commission concerning a new proposition that would be offered to three counties in the State from the National Commission, at the expiration of the Field Sanitation Commission. As soon as they could do so, they offered Ware County one of the three propositions referred to above. One week ago today, this proposition was brought before the Ware County Commission, of which the writer is chairman, and had an indorsement without one single vote being cast against it. We appropriated \$600 to be met by the State Board of Health with the same amount, and with a contribution of \$1,200 from the International Health Commission, we will employ a full paid sanitary expert, who will be a licensed physician, with three expert laymen to assist him in making a thorough health survey of Ware County. They will examine nearly five hundred homes

and make such suggestions concerning sanitary conditions as they find needed. They will examine the individuals in these homes for every form of disease that may be had from soil pollution, milk or water. They will control any epidemics that may arise, and have absolute control of a progressive health movement in our county. This is the best measure that any county could possibly secure; it is better than the Ellis health bill; it will be more telling in its results, because we feel that it will be so convincing in its nature, and so educational, that even the superstitious and ignorant will fall before its forward march to health and prosperity.

Meanwhile, The Ware County Medical Society has been active concerning city affairs. We have asked council, and they have granted a permit to the city school board for compulsory vaccination of all school children and teachers. With the aid of the City Health League, we will examine every child thoroughly during the summer months, and the superintendent of city schools will require a clear card of each child before entering upon its duties in the fall.

Our society now has two great auxiliary bodies to aid it in its work, namely: The County Health Board, composed of the chairman of the County Board of Commissioners; the county school superintendent, and a physician, Dr. J. W. Pafford, of Manor, Ga. We have, also, as we consider an auxiliary, the City Health League. This is a body of the most earnest and active ladies in our city. They are doing everything possible to aid The Ware County Medical Society in their efforts for progressive medicine. They are working among themselves and setting the example to others who are not so much interested, by applying every known sanitary law around their own homes and preserving and conserving the health of their own children.

The writer hopes that this paper has not been too much of a tribute to our local society, but it means to impress upon each of you that if the physicians in any town, regardless of the size or location, representing the best thought as they do, can sooner or later control health measures and legislation regardless of the opposition that may at first arise.

Does your card appear in the Professional Directory?

THE RELATION THE LOCAL SOCIETY SHOULD BEAR TO THE STATE ASSOCIATION.*

Dr. B. H. Minchew, Waycross, Ga.

Every organization, whether fraternal, commercial, social, religious or otherwise, has a peculiar function to perform.

The functions differ according to the purpose for which the organization was founded. A great many have into only one, but allied interests to protect, and this is undoubtedly true with any organization whose existence depends upon the support and loyalty of its component parts and minor branches.

The success of any organization depends upon the support and loyalty of its component parts, and each minor detail should fit securely with its kind.

No fraternity depends more upon this unity than a medical organization—unlike commercial bodies whose co-operation makes possible a greater revenue in the coffers of its members; our organization is for the sole purpose of fitting us better to relieve the sick and perfect our science.

It is not the purpose of the Medical Association of Georgia to stand as an organization to benefit financially any member of its body, or show political preference to any set of men. The voice of the smallest society in the State should have the same patient hearing by the mother institution as the largest. We have no right to expect discrimination on the part of our Association toward the largest cities of the State because their members are greater than the smaller cities. It can not be said that all the sincerity or wisdom is centered in the minds of individuals who hail from any certain locality. Our fraternity should stand for what the word implies, and this rings as true from the relation that the smallest Society in the State bears to the mother organization, as from the largest Society within our boundary. This is the foundation of fraternity. This is the feeling that pervades our minds and shapes our deeds, and from which springs that love, sympathy and kindred feeling which makes us akin to all mankind and brothers indeed to one another.

The relationship of one Society to another and all to the executive body, should reflect the same love we bear to each other. The Medical Association of Georgia is, or should

be, of, and for every physician within the bounds of the State, and without favor represent that altar where any member can feel free to express an opinion, whether from the swamps and wiregrass region of the southern part of the State or from the mountains and red hills of the North.

The Medical Association of Georgia is the formula of the different Societies which compose it, and no incompatibles are possible without combustion. It is needful, then, that no ingredients be prescribed that will produce an undesirable ferment, or produce loss of strength by evaporation.

Each component Society should reflect locally the dignity and virtue of the mother organization from which it sprung, and in turn the mother organization should show that sympathy and love that makes an offspring proud of its family tree, and ever ready to uphold the good name of its ancestry.

The component Societies should deal with local matters just as we would expect the State Association to deal with State matters, and should expect that co-operation and protection from the parent institution that the sincerity of our actions warrant.

We should watch with diligence every opportunity to uphold the traditions of the profession and reverence the memory of those who have already crossed over the river; likewise, we should expect the same devotion and loyalty from the parent body.

Local Societies would not do the State Association credit unless they attempt at all times to suppress any information from any individual which would reflect upon the true history of our profession. Neither would the State Association show the generous support due us, unless, with its strength and mighty power, comes to the aid of the local Society, and assists in defeating any attempt to change the history of medicine, or reflect upon the achievement of any of the grand old men who are dead and gone.

Our united aim should be concentrated for the betterment of our profession only. We can not afford to invite the criticisms of the public by dealing in political measures locally, or as a State organization. We should, however, be ever alert to encourage any move or measure that would improve the health conditions of a community or commonwealth, but this does not mean the promiscuous dealing in political campaigns, or

*Read at meeting Eleventh District Medical Society.

efforts to disrupt any State health body or organization.

Legislation proposed for the health of mankind should receive that generous support of the State organization that the measure merits, regardless of what section proposes same, and at the same time anything that tends to retard the smooth working order of our State organization should be condemned with no little emphasis.

We should be at perfect peace and harmony in the deliberations of our State meetings, and not allow any personal feelings, or the desire to use any official capacity to satisfy personal prejudice.

The real intention and purpose of our organization can be destroyed overnight if political jugglery, or malice, finds its way into our State organization.

Resolutions and legislation intended to weld us into a greater brotherhood and make us more worthy of our title and degree, will be overlooked and cast aside if personal motives be allowed to show its dragon head and cast its venom upon us.

Finally, the State Medical Association should be the example to you and to me that will ever lead us right in our relations to man and brother physicians. It should be the tribunal where any Society in the State may feel it has a place and representation. If this is true, the parent institution will create for itself that generous support and loyalty from its offspring, the component societies, that will make us a great force for the betterment of mankind and command the respect from the public that our profession is entitled to.

Manufacturers of Biological Products.

Dear Sirs: In view of the fact that some biological products as kept in this section are not dependable, but due to lack of proper refrigeration and storage, the Lowndes County Medical Society at its recent meeting unanimously decided not to use any biological products that are not kept in proper temperatures at all times.

This is to take effect at once, and we wish to call your attention to this action so that you may take proper steps to insure us of the strict value of your products in accord with your instructions as per their proper care and storage.

A copy of this letter will be sent to the Georgia Medical Journal calling attention to this matter to all physicians in the State.

We believe that you will appreciate our step in this matter, as your products are dependable, but we wish them kept so after they leave your care. Yours truly,
LOWNDES COUNTY MEDICAL SOCIETY,
James A. Thomas, Secretary.

A PLEA FOR AN ALL-TIME HEALTH OFFICER IN EVERY COUNTY.*

Dr. T. F. Abercrombie, Brunswick, Ga.

Prior to 1910 there was very little said, and except in the larger cities, practically nothing was done along the line of public health work in Georgia. In the spring of 1910 the Rockefeller Sanitary Commission, through the State Board of Health, began active work in this State, with Dr. A. G. Fort as director. Until then we had no definite facts upon which to base our plea for more active work along this line. Since that time they have been quietly, but constantly, at work in securing facts and figures in the rural districts of our state. These facts, since they are compiled, when we study them seriously almost stagger us. They make us wonder why we were so apathetic along this line so long. But that work has been the means of awakening the public conscience to a realization of their health conditions.

Dr. Fort gives us the facts that in his work 100,056 persons have been examined, and of that number 55,786 were found to be suffering from hookworm disease; also in three counties, Stewart, Webster and Tift, physical examinations of the schools were made. A total of 2,932 pupils were examined, and the number of defects were 4,395. In Glynn County last year, we examined 850 school children and found 685 defective. Of 162 rural school pupils examined 135 were harboring intestinal parasites. With these indisputable facts in regard to hookworm disease and physical defects of school children, together with the knowledge we have of numerous untimely deaths caused each year from typhoid fever, malaria, tuberculosis, dysentery, and other preventable diseases, is it not time that Georgia has a full-time health officer in every county in the State? Georgia's future prosperity depends essentially upon the further development of the state agriculturally. To do this we must depend upon immigrants from the states higher up. Colonies have been organized and brought

*Read at meeting Eleventh District Medical Society.

to the southern part of our state, and, in most instances, they have been a failure. And for what cause? Not because the land is not fertile, for it has been proven that it is as good farming land as can be found anywhere. The failure was not due to their not working, for they are usually a thrifty people. Their failure was due primarily to the lack of health protection. They contracted hookworm disease and malaria, and were soon incapacitated for work and, in many instances, lost their lives.

For this State to develop as it should we must be able first of all to say to our neighbors farther north that Georgia, and especially South Georgia, is a safe and healthy place in which to live, and it can be done by teaching them how to protect themselves. This can be accomplished only by having an efficient all-time health officer in every county. The Ellis bill provides for this, but it seems that the counties are slow in taking advantage of this. If we can once make them realize that a healthier people means more and larger crops, increased land values and an increase in the tax income, it will not be long before Georgia will stand first in public health work.

So I make the plea that every physician in the Eleventh District put forth every effort to bring about conditions that will be the means of putting an all-time health officer in every county in the district. I realize that the time is still far distant when we will see an ideal system of rural sanitation, but we know that hookworm disease, typhoid, malaria, and other diseases caused by unsanitary conditions, are sapping the life, dwarfing physically, mentally and morally, thousands of our fair boys and girls every year, when by removing by proper sanitation the causes of these diseases our whole South would have a stronger, healthier and brighter race of men and women; with the rural schools being raised to a higher plane our State would, in a little while, climb up the scale in intelligence. So our's is a hard road to travel, but "The charm of life, that gives it zest and meaning, is to do useful work, for our time, our place, and our generation; to realize that we are needed in the progress of things, and at times appreciated; to give more than we receive; to place usefulness ahead of emolument; to push the world a little up-hill; to plant a flower in everybody's garden but our own."

THE BAKING-POWDER PROBLEM.

For a number of years there has been much discussion with regard to the effects of baking powders on the health. While minor objections have been urged against all baking powders, the principal charge of unwholesomeness has been made against baking powders containing alum. This objection is based primarily on the injurious effects of large quantities of aluminum salts. To this objection the answer has been made that the process of decomposition which liberates the leavening gas when alum baking powder is used, produces an oxid of aluminum which is insoluble, and hence not injurious. For the facts in this matter to be fully understood, it must be remembered that the so-called alum now used in baking powder is not the alum used in medicine, being a sodium alum (sodium aluminum sulphate) instead of the official potassium salt. This point is held by some to be important in view of the effects of potassium salts on the system. Cream of tartar is a potassium salt, being potassium acid tartrate.

In the discussion of the baking-powder question, it must be remembered that the practical application of the facts concerns only small amounts of these salts and contemplates an occasional and not a constant use. Few people habitually consume breads made from baking powder, hence the amount of potassium introduced into the system by baking powder is unlikely to be of serious moment as regards health. Potassium salts are frequently taken as constituents of vegetable food, and yet there is no evidence that they disturb metabolism in any way. The question whether alum used in any way is injurious has been settled by the investigations of the Referee Board of Scientific Experts appointed by President Roosevelt, and its decision may be considered as coming from the court of highest authority. The investigation of this board covered a period of several years and was the most extensive single investigation ever conducted as to the healthfulness of alum baking powders.

The board made the following findings:

"Aluminum compounds when used in the form of baking powders in foods have not been found to affect impuriously the nutritive value of such foods.

"Aluminum compounds when added to foods in the form of baking powders, in small

(Continued on Page 251.)

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CONTRIBUTIONS TYPEWRITTEN: Authors should have their contributions typewritten—double space and with ample margin—before submitting them. The expense is small to the author—the satisfaction is great to the editor and printer. We cannot promise to return unused manuscript, but try to do so in every instance. Manuscript should not be rolled or folded.

ANONYMOUS CONTRIBUTIONS, whether for publication, for information, or in the way of criticism, are consigned to the wastebasket unread.

NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

SPECIAL NOTICE TO MEMBERS.

At a former meeting of the Council a resolution was adopted requiring the Committee on Scientific Work to notify all members, through the Journal, that all papers intended for the next annual meeting must be forwarded to the Secretary at least thirty days prior to the date of the meeting. The reasons actuating the Council were as follows: There are each year a number of papers placed on the program which are not read. It is believed that in some instances men ask for a position on the program with very little intention of reading papers, but merely to have their names on the program. These men who rarely read papers occupy space on the program that could be assigned to men who will read papers.

It is also felt that if a paper has been prepared and sent to the Secretary, the author will be much more inclined to attend the meeting and read his paper than other-

wise. Under the former method a man would agree to read a paper, but would delay its preparation until too late and then would not attend the meeting because he did not have his paper ready. A number of papers read at previous meetings were returned to the authors for correction or else were not handed in to the Secretary, and later were lost or in some instances sent to other journals for publication. If the paper is in the hands of the Secretary he is sure at least of having it for publication.

On the whole it is felt that the sending of copies of all papers to the Secretary, before they are placed on the permanent program, will work to the advantage of the conscientious member and also to the Association.

There will be no effort on the part of the committee to criticize or censor any paper, but every one sent in will be placed on the program and it is felt that every author will have an opportunity to read his paper.

It is the wish of the committee that a full program be presented, therefore prepare your papers at once and send them in at the earliest possible moment.

MEMBERSHIP CARDS.

Those who have paid their dues for 1916 should have received membership cards similar to those given by the American Medical Association and many of the other state associations. We trust that any member who has not received such a card within a reasonable time following the payment of his dues, will interrogate his secretary concerning the reason, and if the secretary has sent his dues in to the state secretary, then both of them get after the state secretary, for there is a mistake somewhere. This card is not particularly a thing of beauty, but it is an evidence of a member's good faith toward his fellow physicians and organized medicine in general, and should serve to put him in touch with the best medical men wherever he may go. It will expedite matters considerably in registering at the annual session of the State Association. It is hoped that the custom of distributing membership cards will serve to make less likely the failure of a member to immediately secure the advantages of membership, following the payment of his dues, no matter where the fault may lie.

SUMMARY OF THE ANNUAL REPORT OF THE SURGEON-GENERAL OF THE UNITED STATES PUBLIC HEALTH SERVICE.

The annual report of the Surgeon-General of the United States Public Health Service records the largest amount of work performed in the history of that organization. Since the passage of the law of 1912 the public health functions of the service have materially broadened, thereby increasing greatly its usefulness to the American people. Throughout the report the economic importance of disease prevention is made apparent to the reader.

Perhaps the most important achievement of the year was the discovery that pellagra is a deprivation disease, resulting from a faulty diet containing an excess of carbohydrates. While the final experiments which led to this discovery have only recently been completed, the conclusion itself is the culmination of investigations extending over a period of seven years. The work has consisted of epidemiological field studies, actual feeding experiments conducted at numerous places in Georgia and Mississippi, and experimental research at Spartanburg, S. C., and other places.

A new national quarantine station was opened at Galveston, Texas, and the control of the Boston station was transferred to the Public Health Service. A great reduction in immigration has been observed during the year, with a corresponding increase in the number of aliens certified. At the Port of New York, the percentage has risen from 2.29, previous to the development of the European conflict, to 5.37 since that time; this increase largely being due to the fact that with the decreased immigration more time can be devoted to the examination. The number of cases treated at Marine Hospitals and relief stations exceeded 55,000, 15,000 of which were hospital patients, a considerable increase over previous years. The coast guard cutter, *Androscooggin*, was fitted out as a hospital ship and no waffords relief to deep sea fishermen on the banks of Newfoundland.

On the occurrence of the plague at New Orleans, the first outbreak upon the Gulf seaboard, the state and local health authorities requested the Public Health Service to take charge of the situation. Extensive rat-proofing and other anti-plague measures were undertaken, resulting in the eradication of the

disease from among human beings, and the practical extermination of the rodent infection.

Great reduction in the incidence of malaria was obtained in localities where surveys were conducted. Drainage projects, rice culture studies and the conditions surrounding the impounding of water for power purposes were investigated in order to eradicate as far as possible the disease in these areas. Scientific investigations of malarial infection showed that in the latitude of this country the most important agent in carrying the infection through the winter season is man, and not the infected, hibernating, *Anopheles* mosquitoes as was previously supposed. From the standpoint of prevention this is a discovery of considerable value.

Studies of occupational diseases and industrial hygiene were instituted at several places during the year. A survey of the industries of Cincinnati was made to determine the cause of the prevalence of tuberculosis among industrial workers. The investigations relating to the migration of persons suffering from tuberculosis were completed.

Upon the request of the health authorities of five states, the organization and operations of the respective boards of health were studied and recommendations advanced for improvement in the powers and duties of these bodies. The health organizations of several cities were likewise investigated.

Investigations of the pollution of streams and the examination of the shellfish were also conducted.

Trachoma was combatted in the Appalachian Mountains, where it is most prevalent, over 12,000 cases being treated. Surveys in certain states during the year showed that the disease is not an uncommon infection.

Rural sanitation work was conducted in six different states and everywhere resulted in the reduction of typhoid and other communicable diseases.

Public health laboratories for the prevention of the interstate spread of disease were established at Chicago, Seattle, and numerous other railway centers.

Additional duties have been imposed upon the service by extension of relief benefits to the newly-organized coast guard and the physical examination of seamen applying for the rating of "able seamen." For this reason, and because of the greatly increased health functions of the service, an increase in

FOR NOTE CONCERNING THESE PAGES, SEE INSIDE
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the commissioned personnel is recommended. An additional building for the Hygienic Laboratory and the establishment of a National Leprosarium for the proper segregation and care of cases of leprosy are also recommended.

THE BAKING-POWDER PROBLEM.

(Continued From Page 248.)

quantities, have not been found to contribute any poisonous or other deleterious effect which may render the said food injurious to health. The same holds true for the amount of aluminum which may be included in the ordinary consumption of aluminum baking powders furnishing up to 150 mg. (2.31 grains) of aluminum daily.

"Aluminum compounds when added to foods in the form of baking powders, in large quantities up to 200 mg. (3.09 grains) or more per day, may provoke mild catharsis.

"Very large quantities of aluminum taken with foods in the form of baking powders usually provoke catharsis. This action of aluminum baking powders is due to the sodium sulphate which results from the reaction.

"The aluminum itself has not been found to exert any deleterious action injurious to health, beyond the production of occasional colic when very large amounts have been ingested.

"When aluminum compounds are mixed or packed with a food the quality or strength of said food has not been found to be thereby reduced, lowered or injuriously affected."

In short, the board concludes that aluminum baking powders are no more harmful than any other baking powders, but that it is wise to be moderate in the use of foods that are leavened with baking powder.

HEREDITY IN TWIN BIRTHS.

In no field of study is the possession of accurate statistics more necessary than in problems of heredity. An interesting problem concerns the question of the likeness of animals and their offspring with respect to birth as singles, twins, or triplets. Heape, in an analysis of the English statistics available, says that there is reason to believe that twin lambs produce more twins than single lambs, and that the influence of heredity is brought

to bear. Rietz and Roberts have taken up the question as determined by the statistics available in this country. In the classes of sheep studied in this instance—registered Shropshire sheep—they found that in general the twin parents give a larger percentage of twins among offsprings than do parents born as singles. They call attention to the fact that as it requires large numbers to establish the significance of the difference found, and it would not be surprising if within a flock of fair size—one hundred—one may in some cases get even a larger percentage of twins from single parents than from twin parents; but such fluctuations would not occur in the large majority of cases. What the significance of these results are for the human being, says The Journal of the American Medical Association, can be determined only by a similar study of heredity in twin births.

NEWS NOTES.

At Thomasville, December 12th, the Thomas County Medical Society elected the following officers: President, Dr. E. L. Morton, Boston; vice-president, Dr. W. W. Jarrell, Thomasville; secretary, Dr. S. L. Cheshire, Thomasville. The next meeting of the society will be at Pavo on the second Thursday in March.

The Lowndes County Medical Society met at Valdosta, December 15th, and elected the following officers: President, Dr. D. W. Freeman; vice-president, Dr. J. M. Smith; secretary-treasurer, Dr. Joe A. Thomas.

At Savannah, December 17th, the Georgia Medical Society elected the following officers: President, Dr. Jabez Jones; vice-president, Dr. A. J. Waring; secretary-treasurer, Dr. D. R. Bassett.

On December 16th, the Fulton County Medical Society elected the following officers: President, Dr. W. A. Selman; vice-president, Dr. R. B. Ridley; secretary-treasurer, Dr. Wampole Brewer.

At Milledgeville, December 8th, the Baldwin County Medical Society elected the following officers: President, Dr. Lamar Turner; vice-president, Dr. G. I. Garrard; secretary-treasurer, Dr. M. D. Clayton.

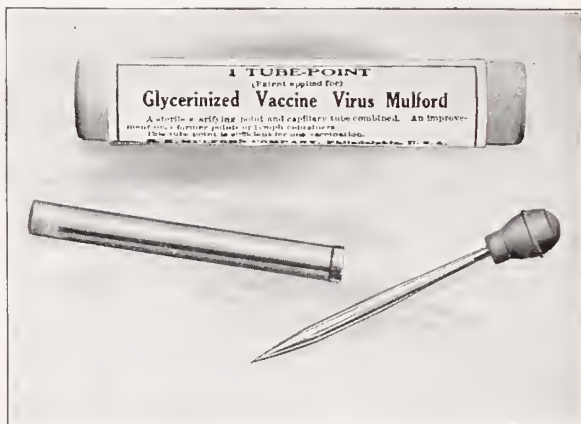
At Cartersville, in December, the Bartow County Medical Society elected the following officers: President, Dr. A. T. Calhoun; vice-president, Dr. Tanner Lowry; secretary-treasurer, Dr. R. D. Stone.

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Intestinal Stasis

Ptosis and Constipation

have assumed today an importance which the medical profession never before imagined. This is because the toxemia which may accompany these conditions, with its train of detrimental results, has been demonstrated, while the fact that cases may be treated successfully by the physician, is recognized. It has been shown that Ptosis, Intestinal Stasis and Constipation do not necessarily occur together. Each may exist by itself, or any degree of combination of two or all may obtain. The essential matter is to prevent the toxemia by preventing an abnormal delay in the passage of material along the gastro-intestinal tract and by hindering development of bacteria.

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VOL. V.

AUGUSTA, GA., MARCH, 1916

No. 11

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NEW TREATMENT FOR BURNS.*

Henry R. Slack, Ph.M., M.D., LaGrange, Ga.

In reviewing the literature of surgery one is impressed with the wonderful advances made in the last quarter of a century. This is especially true in abdominal surgery, thoraic surgery, brain surgery, bone surgery and surgery of the special organs; but when organs; but when we come to the treatment of burns we find no progress. Burns are treated as they were over three-score years ago. It was very interesting to compare the chapter on burns in the text-book which my father studied in the fifties and the one I studied in the eighties with those of today. There has been practically no change.

The same classifications of burns are used, Duypuyten's, with his one to six degrees, or that of first, second and third degree burns. These are to be treated as they were some seventy years ago with earron oil, bicarbonate of soda, white lead, et al., to exclude the air. The only difference noted was that the old text-books recommended for the shock the administration by the mouth of

large doses of tincture of opium, while the later ones suggest the use of morphine hypodermically.

Over twenty years since, I began using a different treatment for burns. It was so simple and efficient that I recommended it to my confreres, but have never published any paper on the subject. I hesitated about rushing into print with this new treatment for two reasons: First, it was suggested to me by reading a letter from a country doctor in an old medical journal long since defunct, and I thought some one else might have tried it and published the treatment. Second, doing only an office and consultation practice I have not had as many and varied cases as I would like before reporting the results. After corresponding with Dr. John B. Murphy, of Chicago, and looking up all the literature on the subject, I decided it was best not to wait any longer to state that the immediate application of Tincture of Ferrie Chloride is the best treatment for burns.

Case 1—Myself: Was lecturing on chemistry to a class in the Southern Female College in 1891 when in making the phosphorescent sun the bell-jar broke. A globule of the ignited phosphorus got under the nail of the second finger of the right hand making a

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

deep and painful burn. A bottle of Tincture of Ferrie Chloride was sitting on the table with the reagents. I thrust my finger into this and was surprised and pleased to feel relief from pain in less than ten minutes. When the pain returned another application gave prompt relief. This was repeated several times during the first twenty-four hours and once daily for the next five days, and at the end of the week my finger was well. I had suffered from a similar accident before, and treated with soda and carron oil. The finger was sore for over two weeks.

Case 2—J. L. Age 33, male, white, candy maker. A new helper placed a pan of boiling candy where the cooled should have been, and he thrust both hands into the boiling liquid, making a severe burn of the second degree, covering both hands and extending to the wrists. He came immediately to my office, which was next door. Applied Tincture of Ferrie Chloride freely to the burned surface with camel's hair pencil. The first impression was of increased pain, but in a few minutes he smiled and asked, "Is that cocaine?" His hands were wrapped in gauze, being very careful not to break the large blisters which covered them. The tincture of iron was applied four times that day and once daily for a week. In less than two weeks the skin all peeled off like a glove, and before the twentieth day he was making candy again.

Case 3—S. H. Pretty little girl of eighteen months. Fell into a bed of coals and had a burn of third degree on cheek and hand. The mother was distressed for fear that the child's face would be disfigured by scars. I gave thirty minims of paregoric and applied Tincture of Ferrie Chloride freely over the burns, and in less than fifteen minutes the child was asleep. Five more applications were made during the next twenty-four hours, and then twice daily for five days, and once daily for the next week, and the child recovered without any scars.

I could report a large number of cases of first and second degree burns successfully treated with ferrie chloride, but only had this one of third degree, and it healed without pus and left no scar.

Now, how does it act? Tincture of Ferrie Acid is a alcoholic solution of Fe_2Cl_6 . We know that ethyl alcohol is one of the best antiseptics we have, and ferrie chloride one of the most powerful astringents. The alcohol renders the wound aseptic, and the ferrie

chloride toughens the skin and makes a dry scarf epidermis in burns of the first and second degree, and a dry impervious coat of iron on those of the third degree.

Now, a word as to treatment. If the burn is extensive, give at least twice the usual dose of morphine hypodermically. Paint the entire surface over with ferrie chloride several times with cotton applicator, or camel's hair pencil, being careful not to break the blisters in the second degree burns, or to remove the charred surface in the third degree. Then apply dry gauze dressing. The first impression is of increased pain, but continue the application and it soon ceases. Whenever it becomes severe reapply the tincture of iron.

Tincture of Ferrie Chloride is also a splendid treatment for frost bites, but I have had only one case on which to try it.

I claim for this treatment the following advantages:

First—It relieves the pain permanently and more promptly than any other dressing.

Second—It forms a dry surface to which dressings do not stick.

Third—It prevents infection and, therefore, the formation of pus.

Fourth—Burns heal more quickly and there is less scar tissue.

Fifth—It is inexpensive and easily applied.

Tincture of Ferrie Chloride is as great an improvement in treating burns as anti-toxin is in treating diphtheria, salvarsan in syphilis or emetin in amoebic dysentery, and I soon hope to see it generally used.

DISCUSSION ON THE PAPER OF DR. SLACK.

Dr. A. F. White, Flovilla: The reading of this paper recalls to my mind the time when I began to practice medicine. I remember very well that Dr. Willis Westmoreland, Sr., one day while I was in his office, and I first began the study of medicine, had a patient come in who was severely burned, and the doctor's remedy was tincture of ehloride of iron. He said he did not use anything else, and I asked him his reason for using it, and it was this, that it formed an immediate covering for the raw surface; that it shielded it from the air and formed an artificial covering. Besides that, he said, as the doctor stated in his paper, it was the best antiseptic he could use. Personally, I have been using that remedy now for thirty years with great

satisfaction. While I have used other things, it is the best remedy I have ever employed for burns.

Two months ago I was called to a patient, a lady who had caught fire while sitting around a grate, burning her clothing entirely off on one side. She was blistered from head to foot. You gentlemen may have the idea that when you put tincture of iron on a raw surface it will create so much pain that the patient can not bear it, but that is not true. It is the opposite. When I was called to this patient with this severe burn I put a pint of tincture of chloride of iron on the burns in that case, then applying sterile gauze and shielding it from the air, the patient began to progress and has been progressing and is getting well. I want to say to you that if you will try this remedy you will find it one of the best you have ever used.

Dr. Slack (closing): I want to thank Dr. White for his remarks. As I stated in my paper, this idea did not originate with me, but was published in a letter or some old paper which was published in Atlanta thirty-five years ago, the remedy having been used by an old country doctor. I wrote to Dr. Murphy, of Chicago, about it, who looked up the literature and could not find any treatment like this.

Dr. Murphy told me to prepare a paper on the subject and he would try and have it published in an early issue of *Annals of Surgery*. He said the remedy ought to be known, and he promised he would do all he could to introduce it in the hospitals in Chicago. The treatment is very effective, and I can highly recommend it to you in treating burns.

The Fourth Annual Meeting of the Southeastern Sanitary Association was held in Brunswick, Ga., March 23-24, 1916, under the Presidency of Dr. C. W. Coker, Hartsville, S. C., with Dr. C. E. Smith, Greenville, S. C., Secretary. The Vice-Presidents are the following well known sanitarians:

Dr. E. G. Williams, Richmond, Va.

Dr. Jas. A. Hayne, Columbia, S. C.

Dr. Henry Hanson, Jacksonville, Fla.

During the week of March 20th there was on exhibition ample demonstrations of advanced sanitation and hygiene. Many Southern cities sent delegates, and representative Southern public health men attended the meeting in numbers.

THE RELATION OF THE MAMMARY GLANDS TO NERVOUSNESS AND MENSTRUATION.*

By **E. Bates Block, Professor of Nervous Diseases, Atlanta Medical College.**

The influence of the internal secretions of the ductless glands and other glands in the body upon the nervous system has been a subject of great interest to me in recent years. The intense nervous symptoms produced by hyperthyroidism, the accelerations of the mental processes by testicular and ovarian over-secretion, the depression and retardation of mental and nervous processes by deficient secretions of these glands is well known. The faulty menstruation has probably been noticed by all physicians who have been specially interested in nervous diseases, but just what brings about these changes is not always evident, and while many of these are accounted for by over and under secretion of the ovaries, there are still many cases which can not be attributed to them.

It is evident that menstruation is not a purely local function, but on the contrary, various changes take place in the body about and at that time. A few days before menstruation the human female becomes more emotional, cries more easily, often becomes cross and irritable, is more sensitive, her feelings become easily hurt, and in more nervous cases they become rather unreasonable, highly excitable, abusive and seem to seek quarrels, and may be said to have a "chip on her shoulder"; at the same time the breasts become enlarged, firmer, more tender than usual; the sweat glands become more active all over the body; the hands are often moist and cool and the whole surface temperature seems lower than at other times.

That menstruation is not a purely local function is also shown by the general tendency to bleed at the time (vicarious menstruation), which is so often noticed in the form of nose bleed or hemorrhages from the lungs in cases of pulmonary tuberculosis. The influence of shocks, frights, unhappiness, etc., upon the menses is generally known.

Sajous, who has written a most admirable book on the internal secretions, says of the mammary glands: "It is held by some that the mammary gland produces an internal secretion, but what evidence there is on the

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

subject is so weak that it can hardly be taken into account." He further goes on to say that it shows a marked stimulating action upon the uterus, lowers, temporarily, the blood pressure and pulse, diminishes the blood supply to the uterus and controls hemorrhages. He also says it has been used in cases of uterine fibroids with menorrhagia and metrorrhagia. It has also been used in uterine hemorrhage attending metritis, to assist uterine involution and to enhance lactation.

Of all the trying cases that vex the very soul of the physician the most trying are the nervous, emotional, cross, irritable, unstable, thin, flat-chested girls, who are slightly anaemic and yet whose blood will not stay built up from the use of the usual remedies. We often search in vain for a pathologic cause—such as Riggs disease, a sinusitis, a latent cystitis or other septic foci, a draining leucorrhoea, bleeding hemorrhoids and everything we can think of at the time, and forget that a physiological event may be pathological in extent—such as menstruation lasting a week or ten days, and perhaps very excessive in quantity most of the time, or perhaps menses coming at such frequent intervals and lasting so long that the patient does not have time for the blood to build up before it is depleted again by menstruation, and instead of 180 to 200 C.C. of blood being lost in twenty-eight days, many times that amount is lost. Now, it has not been shown that the breasts furnish an internal secretion, but it is my purpose to show that they do, and that they play a most important role in the regulation of the quantity and duration of menstruation. It has been claimed that the ovaries exert a regulating influence over the menstruation, and it is well known that their removal causes a cessation of menstruation, and it is reasonable to suppose that the opposite effect, namely, excessive menstruation would follow over-secretion of the ovaries, and in my experience the administration of ovarian substance, usually, increases the flow of the menses; that is, the quantity and duration. Now, in cases of excessive menstruation, such as takes place often at the menopause, and often in nervous girls and women in earlier life, I have tried calcium lactate, which is perhaps the most valuable salt of calcium for increasing the coagulability of the blood, with some benefit, but still with very imperfect success. Ergot, rest in bed and other reme-

dies usually employed have also proven not thoroughly satisfactory; on the other hand, the administration of mammary substance has given more marked results than any drug that I know of. I have been giving two tablets three times a day all the time except during the menses, when the dose was increased to six or eight three times a day, reducing it again to two tablets three times a day after the menses was over—and giving it month after month without interruption.

I have used the mammary tablets now in about fifty cases, but find my notes available for use in only thirty. The results in these cases may be stated briefly as follows:

Nervous or Hysterical.—Out of the twenty-eight cases that were nervous, or hysterical, twenty-five were improved or relieved entirely during treatment, while three of them were no better. The results were perhaps vitiated by the fact that other things were done for them besides the use of mammary tablets, so that it can not be claimed as necessarily true that the mammary tablets lessened their nervousness, but I believe this to be true.

Duration.—The average duration of the menses in 15 cases that could be compared in days was 123 days before treatment, and 72 days during treatment, or 8 1-5 days compared with 4 4-5 days. Each of these cases showed a distinct decrease in the duration. I have excluded from this comparison cases in which the actual number of days were not given, and cases in which there was flooding with very prolonged records without this being an habitual occurrence over quite a period of time. In three cases the relation was 126½ days before treatment. Two of these cases were due to menopause (ages 45 to 47, while the third was only 22 years old). In 9 cases the menses were delayed, and in some of these the treatment had to be discontinued, as it prevented the menses from coming on. In one case the menses did not return for three months after mammary tablets were stopped.

In five cases, in which no actual figures were given, the patients stated that the duration of their menses were shorter, while in three cases no benefit was noticed. In one of the latter cases the treatment was continued only two weeks, one case did not increase the tablets during menses as directed, while in the third case no reason could be assigned for the failure to shorten the duration.

Quantity.—In regards to the quantity of the menses in 25 cases in which it was excessive it was reduced in 23, was increased during treatment in 1, and produced no effect in 1. In the case in which it was increased the patient was 50 years old. In the case in which there was no effect she took the treatment only one month.

In two cases in which the quantity was natural there was no change during treatment.

Pain.—In 24 cases in which the menses were painful 23 of them had either less pain or none at all during treatment. In the case in which there was no change she had had pain formerly only at times.

Of the 24 painful cases, 7 of them reported that they had no pain at all usually during treatment. One of these cases had been in bed during every menses on account of pain for ten years, and had always required hypodermic injections of morphine to relieve the severe pain until she took the mammary tablets.

Breasts.—In regard to the influence of mammary tablets on the size of the breasts, in fifteen cases they became larger. In some of these cases there was an increase in weight, in some there was none, while a few of them lost weight. Two of them said they had no breasts, and were as flat as a man before taking mammary tablets, but were well developed after taking them. In nine cases they became smaller. In one of these cases the patient was 46 years old, while in the other she lost 21 pounds in weight. In four cases no report was obtained.

Pregnancy.—Attention is called to the fact that menstruation ceases during pregnancy, while the breasts become gradually larger, and it may fairly be asked if the over-secretion of the breasts during pregnancy may not be the cause of the cessation of menstruation. We know that calcium salts are important in the coagulation of blood, and that calcium salts when administered by mouth increase the coagulability of the blood. Milk contains calcium phosphate, and we know that the precipitation of the calcium phosphate by potassium oxalate, or by boiling, prevents the action of rennin upon the caseinogen to form casein.

The morganic salts of milk are chiefly potassium, sodium, calcium and magnesium

phosphates and chlorides. Iron is present in small amount.

An analysis of mammary substance made for me by Dr. Edgar Everhart, professor of chemistry in the Atlanta Medical College, was as follows:

Calcium	0.79%
Lactic acid.....	0.75%
Calcium lactate.....	0.88%

He states that the lactic acid percentage given is only approximate, but that the error would be only slight.

It, therefore, does not seem probable that the mammary substance reduces the quantity of menstruation entirely by the effect of the calcium in increasing the coagulability of the blood, as larger quantities of calcium lactate given in such cases failed to produce the same effect.

Removal of One Breast.—It seems reasonable to suppose that if the administration of mammary substance lessens the quantity and duration of the menses, then the removal of one breast ought to cause an increase in the quantity and duration of the menses. Unfortunately the cases of amputation of the breast are usually in people about the age of menopause, so that any deductions from the results in these cases are vitiated by the time of life.

Dr. L. C. Fischer has kindly investigated the results among some of his private patients, upon whom he had operated, and has furnished me the following figures:

In seven cases operated upon four of them have been regular since then, but one of these stated that the quantity was increased at times. Of the three other cases one reported her menses had not returned since the operation (90 days before), one was irregular, excessive and 6 to 7 weeks apart, while the third stated her menses were irregular, less quantity and a longer time between. In regard, then, to the quantity it was increased in 2, decreased in 2, and showed no change in 3.

Pulse.—In regards to the influence of lactation upon the pulse rate, Dr. K. Nyun has gone over some of the sanatorium charts of Dr. Annie Sawyer's private cases of childbirth, and has compiled the following evidence for me in tabulated form. It may be stated, however, that this embraces the pulse rate during only that period of lactation spent in the sanatorium before, during and

after confinement, which is usually about two weeks.

This shows that the average pulse rate before childbirth was 91.16, and after childbirth was 85.10. As a possible source of error it may be pointed out that these cases usually enter the sanatorium only a day or two before delivery, and are apt to be excited and have a more rapid pulse than usual on that account.

Average pulse rate for 24 hours before confinement.	Grand average pulse rate during resi- dence in sanatorium after confinement.
86.	81.16
82.	72.27
95.20	92.53
91.	85.60
84.5	80.48
99.75	105.20
92.	82.63
90.	82.90
100.	83.20
<hr/>	
Total....820.45	Total....765.97
Av'ge.. 91.16	Av'ge.... 85.10

Conclusion.

- (1) The administration of mammary substance lessens nervousness.
- (2) The duration of menstruation is shortened.
- (3) The quantity of the menses is lessened.
- (4) The pain is decreased.
- (5) In half of the cases the breasts became larger.
- (6) It probably slows the pulse rate.

In order to produce these results it may be necessary to take the mammary substance for several, or many months, although some cases reported an immediate effect within twenty-four hours.

DISCUSSION ON THE PAPER OF DR. BLOCK.

Dr. W. F. Shallenberger, Atlanta: This paper on the interrelation between the various internal secretions and their effect upon metabolism and the various metabolic processes is very interesting to me, and every day we are learning something new about this. It is well known that nearly all the glands of internal secretion have something to do with menstruation. We notice this in the swelling of the thyroid gland during menstruation,

we also notice it in the swelling of the breast, and it is well known that the effect of pituitrin and pituitary extract on the uterus is very beneficial.

The use of mammary gland extract or tablets is extremely interesting, and I have used it in a number of cases. The results I obtained at first were not as good as Dr. Block has reported, but it was because I was not using a sufficient number of the tablets. Since I have increased the amount at Dr. Block's suggestion, the results I have obtained in these cases of profuse menstruation have been much better.

We know the effect of the mammary gland extract following labor. The nursing causes contraction of the uterus and the after pains; we also know where the mother does not nurse her child, where the child is not nursed for some reason or other, involution is delayed, and it takes longer for involution to take place in these women who do not nurse their children.

Recently some investigators have been using placental extract to get an effect on the breast, and the reports are favorable, and it shows the use of the placental extract will increase lactation; therefore, we have another secretion from the placenta which enters into the stimulation of the parts in their activity.

The use of pituitary extract in profuse hemorrhages and the use of the pituitary tablets has given me good results in some cases, possibly not so good as from the use of the mammary gland extract.

There is a class of cases in which we have profuse menstruation, metrorrhagia, and in which which menorrhagia occurs. These cases were formerly called cases of endometritis, and curettage was invariably done with the results being uncertain. Sometimes you would not. The endometrium removed by the curette was sometimes spongy in character, and under the microscope showed the picture which used to be called glandular endometritis. It is not a true endometritis. It is a glandular hypertrophy of the endometrium, and most investigators have come to the conclusion this is not a local disturbance, but a functional one, due to some upset in the balance between the various internal secretions that enter into the stimulation of menstruation. Curettage will not relieve this condition in a great many cases. It does not do any good at all, for just as soon as the endometrium reforms you get

the same picture again. In these cases the administration of mammary gland extract does good.

Hitchman and Adler have done much work along this line, and they claim there is no such thing as a glandular endometrium; that this glandular endometrium is part of the cycle which the endometrium goes through during menstruation.

Dr. A. A. Barge, Newton: Dr. Bloek has given us one of the most interesting papers we have heard at this meeting of the Association.

I would like to have Dr. Bloek answer a question, if he will, as to the blood pressure. I do not believe he mentioned that in these cases, or that he made any record of the blood pressure, so that we must draw some conclusion as to whether the stimulation through taking these gland tablets had any effect upon the pituitary body. We know it has a tendency to raise blood pressure. We do not always know because we have hypertrophy of the glands during pregnancy or during menstruation if we have hypersecretion of the thyroid. We may or may not have. We may have a hyposecretion. The doctor says that these tablets relieve the nervousness. They slow the pulse. Therefore, to my mind, this remedy must have some inhibitory action on the thyroid.

Dr. Ballenger was telling me day before yesterday of a case of headache he had with which he could not do anything with the ordinary remedies. He massaged the prostate and relieved the headache. I asked him if he had followed it up, and he said he had, and time after time he has gotten results. I said, "Doctor, on what basis do you rest this treatment?" He replied that he did not know. I suggested to him that through massaging of the prostate some good might result, because of the sympathetic relation between the prostate and the pituitary body. The doctor, no doubt, stimulated the pituitary body, and by that means he got relief. He said there was no efficacy in the thyroid, therefore, there was no excuse for it upon the ground of absorption. He told me the patient did have a high blood pressure. I asked him to try the pituitary extract and report later, and he said he would.

In these cases, I am sure the effects as indicated by the doctor on his patients is through the internal secretions. We can not

always tell just what effect we are getting. We understand from the best authorities that excitement will stimulate the suprarenal capsule or gland, and that stimulates in turn the thyroid. The secretion of the thyroid inhibits the action of the pancreas, and Professor Von Noorden holds then that we have hyperglycemia.

I would like to ask the doctor in reference to the blood pressure, and if he has taken any note of it in these cases.

Dr. J. R. B. Branch, Macon: The question of menstruation is one that has interested me in the past five years. We have found out that menstruation is not a local phenomena, but more or less a local manifestation of a general metabolic process, and so we have begun to treat our cases of menstrual abnormality on a scientific basis, directing our attention above the pelvis and going all over the body for the cause of the trouble. We realize fully that menstrual disturbance, particularly dysmenorrhea, is most common in women who have no pelvic abnormality, that is, no gross pelvic abnormality. Most of these cases occur in young unmarried women, and if that is true, the cause of the menstrual abnormalities must be due to some general disturbances. Normal menstruation depends, first, upon a fair state of the general body health; second, on the condition of the pelvic organs, and third, on the normal working of the various ductless glands and those glands that have to do with the internal secretions.

The effect of the mammary gland extract on menstruation, as Dr. Bloek has stated, is probably and certainly not due to the calcium content of the gland substance administered. We now get results in some cases from the administration of calcium where we give thirty grains of calcium lactate a day. It is due to the effect of the glandular substance on the other glands in the body and also to the effect of the gland substance upon general metabolic processes.

Dr. Bell has been doing some experimental work in reference to this subject, and it shows that calcium is a most important drug, so far as menstruation is concerned. He says that normal menstruation is dependent upon calcium metabolism in all its ramifications, and that menstruation is only a periodic process in so far as calcium metabolism is in harmony with the periodicity. The effect of the mammary gland extract,

then, is probably that of a hormone or activator. We have an endless chain concerned in normal menstruation and also in abnormal menstruation.

I believe in the use of thyroid extract, pituitary extract, and mammary gland extract. We are entering upon a new era in the therapy of menstrual disturbances, and that we will take into account the important factors in the production of normal menstruation.

Dr. Block (closing): In answer to the question relative to the blood pressure in these cases, I had no idea of speaking particularly of the subject when I investigated these cases, but did it for my own individual information, and consequently did not keep records of all cases, so I did not investigate every phase as I would have done if I intended to do it from the standpoint of research. In some of these cases the blood pressure was taken before the administration of the tablets and again afterwards, and the general impression that I got was it lowered the blood pressure. It is possible I may find some cases amongst my records in which blood pressure may not have been altered. Of those I do not recall the blood pressure was reduced while they were taking the mammary gland extract.

It is interesting to consider in connection with this study the previous ideas, the breast, next the uterus, nearly through the nervous reflex, namely, the lactation, etc. The practice of nursing a baby produces contractions of the uterus and the evident effects of irritations of the breast upon the uterus made us think at one time there was a nervous reflex relation between the uterus and the breast, and in the light of this study that I have now made it seems unquestionable there is an actual chemical substance which is manufactured in the breast, which of itself has an influence upon the uterus, in spite of it being a nervous reflex apparently. They do exist in that you get contractions immediately upon the suckling of the infant. There must be both a nervous reflex and an actual chemical substance which travels through the blood stream and produces this effect upon the uterus. There is some question as to whether this chemical substance is the calcium salts. It did seem as if it were the calcium salts which produce the effect, for the reason that the calcium lactate given in large doses had nothing like the influence

that the mammary substance did. As only .88 of the calcium salts was given, it is such a small quantity that it did not seem probable that these salts retarded the quantity and duration of the menstruation. All these cases were hysterical or nervous women or girls. One of them showed a very decided deficiency. She had a curvature of the spine, due to a deficiency of calcium. She had abnormal softness of the teeth. Her teeth were so soft that a hard tablet would break them, and she had to go to a dentist to have them repaired. In addition to deficiency of calcium there were also periodic attacks of diarrhea, and deficiency of calcium there. The remedy used was the administration of calcium lactate. The patient had excessive menstruation, so that her menses lasted ten days usually. She had flooding spells during most of that time, evidently again a deficiency of calcium. Coagulability of the blood took place in eleven minutes and forty-three seconds, a deficiency of calcium there. She improved under calcium lactate, but under the influence of mammary gland extract and all of these things the curvature of the spine got better. The coagulability of the blood increased, the diarrhea stopped, the menstruation came down from ten days to four days which was the shortest time known in her whole life. She was 27 or 28 years of age. She began to menstruate between 14 and 15 and never menstruated such a short time as that before, so that in making up for the calcium deficiency in general in her body, great improvement was noticed by the administration of mammary substance. She was improved also by calcium lactate.

The South Carolina Medical College was on February 9th admitted to membership in Class A of the Association of American Medical Colleges by the executive council of the body in session at Chicago. Last year the college was admitted into Class B, this year its application was made to be admitted in Class A. A new building and several new professors, added since the last application, were cited as a basis for the promotion of the college to the highest rank. This is a very high indorsement for this magnificent college. It makes us all feel proud that it is again coming to its former high rank among institutions of this kind.

**SOME CONCLUDING REMARKS ON THE
USES OF SALICYLATE OF SODA IN
THE TREATMENT OF DISEASE.
BEING A CONTINUATION OF
LAST YEAR'S PAPER.***

Dr. B. P. Oliveros, Savannah, Ga.

Two or three years ago, during my attendance at one of the state meetings, it was my good fortune to hear a paper from one of our distinguished members on the drug "Digitalis." A short subject, surely, and yet one of wide significance.

Knowledge of this drug, or of any other drug for that matter, made known to the profession and placed before them in the certain and concise manner in which this gentleman placed it, reaches a spot in our brains which is seldom reached during these days of scientific research and inordinate desire for new remedies and treatments of doubtful entity.

It seems passing strange that in this search for various serums and vaccines that everything else should be thrust aside and relegated to the past.

For the meeting in Atlanta last year, I wrote a paper entitled "Three Thousand Cases of Fever Treated With Salicylate of Soda." This paper was published in our State Journal and I was proud and happy to see a synopsis of the same paper given in The Journal of the American Medical Association; I also had requests for copies from physicians in various states. This was gratifying, in so much as it indicated to me that internal medicine is still somewhat in vogue.

In again calling the attention of this august body to the use of salicylate of soda it may appear that I am "rubbing it in," so to speak, but it is my earnest desire to have those of you who have had little experience and less desire to become acquainted with the drug to know it BETTER and use it MORE. We should know drugs WELL; in order to use them, we should know them BETTER, and at least a dozen out of the whole pharmacopoeia we should know BEST; but it seems to me that a very few know that dozen THOROUGHLY WELL. In the study of drugs the most essential thing is their physiological action; without this, we simply give and the patient swallows what we expect to get and why we expect it is a

problem which is never solved to our intelligent satisfaction. To quote from my previous paper: "The primary action of salicylate of soda is to increase the force of the cardiac systole and the arterial tension; but that secondarily the pulse grows feebler and more frequent or infrequent, the latter especially after large doses. Of these effects, the former is interpreted as showing an action of the medicine upon the vagus, and the latter a paralysis of the excito-motor nerves of the heart." The medicine does not modify the temperature in health, but only in fever, which is thus explained: Febrile heat is caused by a diminished activity of the circulation due to a lessened power in the heart and arteries. Like other drugs, for instance, digitalis and quinine, salicylate of soda, increases the cardio-vascular tension and lowers the temperature. It causes constant deafness, noises in the ears, frontal headache, trembling of the hands and quickened breathing, but never produces dyspnoea. It is a decided diuretic and seems to affect the calorific function only when it acts as a diuretic. It also has a diaphoretic action, as one of the best features in the treatment of fevers is a moist condition of the skin. The most pleasant thing that I can say for the drug, however, is its antiseptic qualities. From the beginning of my use of this drug I have always felt that this was a statement that could not be verified, and I am sure that I have made every effort to do so, but, at last, this fact seems to be recognized. In the treatment of typhoid fever with the drug I have always attributed the brilliant results obtained to its germicidal qualities, to intestinal antiseptics during its use. R. Stockman, in the British Medical Journal of March 2, 1913, goes into this point in a somewhat incomplete manner; at least, his conclusions are incomplete. He says: "It is not known definitely whether the salicylates act as anti-microbes or anti-toxines. The most immediate explanation of their action is that they kill or injure a casual microbe, but it has also been maintained that the almost instantaneous, although transient, effect of a small dose given intravenously points to an anti-toxin action, and that when given by mouth the rapid abatement of symptoms, apart from the real cure, as shown by the tendency to relapse, points in the same direction." This coincides with my statement above, that in the treatment of fevers, especially of the enteric type, that

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

the cure of the case was due more to some anti-toxin action of the drug than to any other quality. In using the drug in typhoid fever I have always noticed that when the temperature was running at 99 to 100 degrees, patient in the most beautiful condition, that if the medicine was discontinued for any reason, there would, in the course of a few hours be a raise of temperature and an increase of bad symptoms, or even when temperature was normal and treatment discontinued too soon, there would be a relapse. At any rate, under the use of salicylate of soda there seems to be a lack of capacity on the part of the system to produce or manufacture toxins, thereby allowing the natural defensive agencies of the body more effectually and readily to get rid of them; for this reason I rely upon the drug in all conditions where there is a pyrexia and have ceased to use quinine in every instance, with the one exception, and that is in the purely malarial conditions, for in malarial fever it has no effect whatever.

If we can keep the system from manufacturing toxins with any agent whatsoever we have gained a very material point. I believe that salicylate of soda does this very thing, thus accounting for its marked benefit in enteric fevers or in rheumatism; for an unhealthy condition of the intestinal wall may excite to activity the rheumatic or typhoid agent, setting up acute rheumatic pneumonia with peritonitis or appendicitis, or act as a ground work for the typhoid germ leading to an attack of typhoid fever. It is generally agreed that there may be a diminution of the defensive qualities of the blood, of the physical resistance or perhaps the local tissue loses some of its protective quality, the natural consequence of the inroads of the micrococcus which is assisted by a local catarrh; thus again might it be supposed that this drug renders good service by its anti-toxine action on this focus of inoculation, or it may be that it acts by attacking these agencies by entering the vascular system just as the infection enters that same vascular system. The micrococcus rheumaticus always takes the path of least resistance. How often is this a diseased or unhealthy throat, hypertrophied tonsils or adenoids. McKenzie points out that rheumatic fever and many other ills may be avoided by taking care of such a throat, especially when we have congestion of the pharynx, palate and fauces. He recommends the application

of a 5 to 10 per cent solution of salicylate of soda over the entire throat, thus giving a protective film which does away with further contamination and does not impair the defensive action of the tissues. I have often followed this mode of procedure, and I particularly like the application in the form of a gargle of the drug, the salicylate acting not only as an anti-toxine, but a sedative and healing agent to the mucous membrane.

When a patient takes salicylate of soda we find a moist, clean tongue, lips with no cracks, no sores, a moist or cool skin, and a general non-toxic condition; if too large a quantity is given in the twenty-four hours we have much mental excitement characterized by hallucinations and inability to sleep, but it can be given in much larger doses than is generally supposed, to the adult 15 to 20-grain doses every two hours for seven consecutive doses, but there is too much excitement caused by any larger amount or a longer continuance. Dr. L. A. Connor, in the Medical Record, February, 1914, has found in an experience with twelve cases of rheumatism that the relief from pain is much more pronounced and much more prompt when the drug has been used intravenously than when given by the mouth. This intravenous injection of salicylate of soda is rather new to me. He used 130 injections in his twelve cases, using chemically pure crystalline sodium salicylate in a 20 per cent solution by means of a very small, sharp hypodermic needle, and found that he could use the same vein over and over; he gave as much as 30 grains at a dose and 120 grains in 24 hours. I must say that I am somewhat dubious about this mode of procedure. I am at a loss to see in what way it is superior to administration by mouth. It might look more scientific and appeal to the physician, because apparently the patient can't retain the drug by mouth. I think, however, that the latter cases are few and far between. My experience has been that too much sameness in administration accounts for the sometime disgust of the drug; a frequent change of vehicle will often solve the problem.

I notice in the latest works that another new mode of procedure for administration is by enema. Hayn reports 100 cases with the most satisfactory results. I have used this method and find it far superior to the intravenous method, and I agree with him when he calls attention to the ease of administration, ready absorption, minimum of

bad effects and the ability to administer large quantities, and the results are certainly very prompt.

In giving the enema there is nothing special in the manner of giving it. Of course, the bowels should be washed out first with a plain S. S. enema. Hayn gives the dose in 120 to 180 C.C. of plain or starch water, with 1 to 1.5 gm. of Tr. opium. I have always preferred after the bowel is well washed out or cleansed out to put in $3\frac{1}{2}$ Tr. opium in 2 ounces water, wait an hour, then pass in rectal tube for 6 or 8 inches; wait a short while, then put in the salicylate of soda in warm starch water; withdraw the tube slowly and have the attendant place thumb over anus or press the buttox together until the inclination to expel the enema is passed. The dose of soda depends upon the case. In acute rheumatism when this mode of administration seems desirable on account of the state or non-forbearance of the stomach, I put in 2 drams every eight hours and increase daily until you get a marked salicylism. I have seen in chronic arthritis when the stomach has been bedeviled and worn out with all kinds of rheumatic cures, that this intra-rectal method would give you the one chance of getting in your work with this true and tried remedy, and there is no doubt even in these chronic cases that even though you do not cure your case you do ease pain, subdue inflammation, reduce temperature and make your patient comfortable.

I wish particularly to impress upon the members of the Association my experience with this drug in all forms of continued fever, especially of the enteric type, typhoid fever. It seems impossible for me to remember when I have not used the drug. It has proven so satisfactory to me that I have been unwilling to drop it for the use of anything else; my experience and my results guarantee my persistence in trying to make others see the thing as I have seen it. We all know that the present-day idea that there is nothing to be done in typhoid fever, except sustain the patient and give a sponge bath every time the temperature reaches 102 degrees, is a sample of the do-nothing theory. If we could only recollect why typhoid is, we would try to do something. If we have a remedy that will do things, why not use it? After all, theory is a poor thing to guide us, because practically theories do not always work out any better in disease than

does the weather answer to the deductions of the hydrographic expert. I am a strong believer in intestinal antiseptics, notwithstanding anything to the contrary. If a given remedy will improve a set of bad symptoms that remedy is worth something. If a disease is due to some germ or toxin and a given remedy will control that toxin and knock it out in eight or ten days when it usually holds its own for three, six or ten weeks, then, I say, there is something in that remedy.

Salicylate of soda used from the beginning of a typhoid case will eight times out of ten abort or put a finish to that case in eight or ten days, even though the exceptional cases may run longer. Is it not something to have a clean, soft tongue, no delirium, a complete reversal of the usual story; I say, is it not worth recognition?

DAMMERSCHLAF, OR TWILIGHT SLEEP.

I. H. Adams, M.D., Macon, Ga.

Since the day in the Garden of Eden when God said unto the woman, "In sorrow shalt thou bring forth children," man has been trying to alleviate that sorrow.

Perhaps the keenest interest on the part of the profession and the public begun to be aroused about nine months ago when an article in a lay magazine by a layman announced to the world that in Dammerschlaf, or "Twilight Sleep," the panacea had been discovered. This writer quoted Drs. Kronig and Gauss, of Freiburg, as saying that under this treatment a woman knew absolutely nothing of the labor from beginning to end, and so well did she feel after labor that she had to be forced to keep her bed for a few days. Before many of us had read in the medical journals of this great discovery we were questioned by anxious patients concerning it. However, Dr. Kronig mentioned the matter at the Clinical Congress of Surgeons of North America November, 1913, also at a meeting of the Chicago Gynecological Society November 15, 1913. Let us see what he says of "Dammerschlaf." He has coined this word and tells us that in English it means "twilight sleep." This seminaresis produced by the definite and exact use of Scopolamin and morphine has been carefully stud-

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

ied by his assistant, Dr. Gauss, and successfully used in 3,000 cases under his personal care:

Kronig says: "'Dammerschlaf' is a state during which the woman concerned has indeed a perception of pain but no apperception. She still reacts to the labor pains with an expression of pain, but afterwards has no recollection of the pain experienced. In producing this state two opposite extremes must be avoided—if too much of the drug be used complete narcosis, with cessation of pain, results; if too little is used the pains are perceived and apperceived, and the nervous exhaustion designed to avoid arises as if no narcosis was induced. Between these two lies 'twilight sleep.' You all know this condition as you see it induced by the administration of small quantities of ether, chloroform or nitrous oxid gas. Identically the same condition can be accomplished by the use of Scopolamine-morphine, or Narcopline. The production of this state can not be induced until labor has begun; that is, until the pains are about five minutes apart, hard, regular and the cervix appreciably dilated. In our experience of 3,000 cases no detrimental results ever occurred for the mother. The disadvantages of this method consist in the fact that in some women, especially when the surroundings are not very quiet, transitory states of confusion of mind and excitement occur. These are of no material importance so long as the relations of the patient do not remain in the room. In consequence of this we only induce twilight sleep when the relations promise to be absent. A further disadvantage of the method to the child is that occasionally an apnea sets in during the first moments of life outside of the womb and the child only begins to breathe after a certain time by the operation of carbonic acid gas. The great number of cases has, I think, provided a proof which eliminates all probability of danger for the mother and also, as I have just explained, for the child."

According to the U. S. P., morphine depresses the pain perception, not the nerve endings, nor the spinal cord. It also depresses respiration through central action. The same authority gives Hyoscine and Scopolamine as synonymous, but the German standard has discontinued the use of the word Hyoscine. Scopolamine depresses the respiratory center, which may be dangerous for the mother and worse so for the child.

However, the spinal nerves are stimulated, hence expulsion is aided.

Morphine and Scopolamine were first recommended for surgical anesthesia in 1899 by Schneiderlein, a neurologist. They were first used in obstetrics in 1902 by Van Steimbuehl. Steimbuehl's goal was simply diminution of the pain without narcosis, and his doses were less than those used in surgery. Varying success followed this practice at the hands of other physicians. The chief trouble was recognized to be generally the use of too much morphine. About 1908 so so numerous were the reports of disastrous results, occasionally to the mother and more frequently to the child, that the use of these drugs fell into disrepute and was largely abandoned. However, Kronig and Gauss continued their experiments and finally reported their results as quoted above. Gauss claims that bad results were due to too much morphine and impure Scopolamine.

Since Kronig's address in November, 1913, a number of American obstetricians decided to test the method again and not a few visited Freiburg to see it used at home.

The various Obstetrical Societies of America have devoted a good deal of time and study to "twilight sleep" the past year, and numbers of cases with favorable and unfavorable results have been reported.

At a meeting of the New York Academy of Medicine, November 24, 1914, the section on obstetrics and gynecology had this subject for discussion. As the committee on public health had requested the section to express an opinion on its value and safety the following resolution was offered: "After a full discussion, we conclude that twilight sleep is a recognized and valuable method of treatment in selected cases of labor, requiring proper surroundings and continuous medical attention." This resolution was not passed, as the section agreed that further experiment was necessary before any unanimous opinion could be expressed, but decided that the record of cases of those who had spoken at this meeting be placed at the disposal of the committee. Among those taking part were Drs. Polak, Brodhead, Dorman, McPherson, Harrar, Holden, Rougy, Bandler, Jacobson, Browd, McLean, Drnskin, Helman, Gallant and Kosmak.

A few of the cases reported are as follows:

Dr. Joseph L. Baer, Chicago—Had at the Michael Reese Hospital 70 cases under the best of care; nurse with patient constantly.

interne constantly and himself most of the time. Says he considers it an "obstetric jag." Had blue babies and almost all the complications enumerated by anybody. The Michael Reese Hospital passed a rule requiring the patients to sign a release of responsibility before it may be used.

Dr. C. B. Reed, Wesley Memorial, Chicago—Seventy cases; some delirium; no blue babies; lost no mothers or babies. He says: "Apparently we are satisfied to continue its (twilight) use."

Dr. Lyneh, Chicago, says: "'Twilight sleep' has failed with me."

Mary Thompson Hospital, Chicago, Dr. Bertha Van Hoosen—Fifty cases; no bad results. All cases perfect analgesia. Average duration labor primiparas, 2½ hours; average duration labor multiparas, 6 hours.

An optimistic lady!

Dr. J. Clarence Webster, Chicago, says: "The lay press has not alluded to the number of cases of mental disturbance produced at the home of 'twilight,' nor to the fact that a large number of damage suits are pending as a result of twilight to mother and child."

Dr. Dickinson, Brooklyn, says that "'Twilight' suits have begun to appear in this country, and 'twilight' appears to him to be belladonna poisoning."

Dr. Shears, City Hospital, New York, considers danger to baby of first consideration.

Dr. Seadron, New York, reports 250 cases—all successful!

Dr. E. P. Davis, Philadelphia, is not persuaded to adopt "twilight."

Dr. Craig, in Sloan Maternity, New York, says: "I am experimenting at Sloan. At present I am not willing to use it in my private cases unless I might use it in the first stage only."

Dr. Polok, of Brooklyn, reports 100 cases. Amnesia partial in 90 per cent cases; failure in 10 per cent. 3 babies, cyanotic; 3 babies had to be resuscitated; was able to use forceps under "twilight." Observed first stage shortened; second stage lengthened.

Dr. Knipe, New York: Amnesia complete, 78 per cent; no amnesia, 4 per cent; amnesia, partial, 18 per cent.

Dr. Hampton, New York, says that "While memory is partially obliterated, that it is no panacea."

Dr. McPherson, New York, reports 115 cases carefully selected, and was successful in 70 per cent. Considers the method far

from perfect and does not make labor an entirely enjoyable process.

Dr. Rongy, New York, reports 230 cases. Amnesia, 80 per cent; oligopnea, 80 per cent; not entirely satisfactory.

Dr. Bandler, New York, asks: "What have we gained by 'twilight sleep'?" and answers "Nothing."

Dr. Harrar, New York, reports 156 cases, and remarks on fewer perineal tears under "twilight." Also considers harm to child result of bad obstetrics. He considers the method applicable to only 10 per cent of hospital cases.

Thus we see that the use of this procedure requires careful selection of cases, experienced obstetricians, closest attention and the best hospital surroundings.

First, as to the selection of cases, we are told that rapid labor in the multipera does not allow time to induce "twilight sleep," inasmuch as one and a half or two hours is required, and that morphine should not be given nearer delivery than four hours.

Second, some observers say the method is best suited to nervous cases, which others deny.

Third, delirium, which occurs occasionally, causes trouble and sometimes persists after delivery.

Fourth, the prolonged second stage very frequently necessitates the use of forceps.

Fifth, it appears that the life of the baby is endangered to some degree at least.

One advantage of the use of morphine, with or without Scopolamine in the first stage of labor is that the time required for dilatation is shortened, but the morphine-Scopolamine anesthesia lengthens the second stage since it prevents voluntary assistance on the part of the patient. But admitting all the favorable things that have been said in regard to "twilight sleep," are the results sufficiently satisfactory to permit of its general adoption? Its advocates unanimously insist on careful selection of cases and proper hospital equipment. According to American medical literature the brilliant success reported by Kronig and Gauss in Germany has not been duplicated here. The first flush of success in its employment seems to have been succeeded in the minds of many by a more conservative attitude toward the method. Admitting that most labors verge on the pathological and require some degree of narcosis, either to alleviate pain or to favor dilatation, have we not on hand remedies, amply

tried, which will aid us in such cases? Is it necessary to resort to a drug or a combination of drugs which have not been satisfactorily subjected to analytical test and animal experimentation toward which patients frequently manifest unsuspected idiosyncrasies? Have we not observed the hypodermic use of morphine, codine, or heroin produce alleviation of pain and hasten dilatation in the first stage of labor, and does not analgesia and anesthesia produced by the inhalation of chloroform, ether, nitrous oxid gas and oxygen prove eminently satisfactory in the second stage? In closing, I will quote from an editorial in the January number of *The American Journal of Obstetrics*:

"Are the advantages gained from the procedure of 'twilight' of sufficient extent and importance to overbalance the disadvantages which even the advocates of the method are compelled to admit. Undoubtedly a large percentage of women thus treated deliver themselves satisfactorily of non-asphyxiated babies, but aside from the amnesia, would not these same individuals have done equally well without a narcosis wrought with some degree of uncertainty and danger? On the other hand, can we disregard the warning sounded that in many women the second stage under 'twilight' is unduly prolonged; that forceps deliveries are often necessary, and that a certain number of babies are asphyxiated? Are we not playing with fire in allowing a more or less superficial knowledge of this procedure to be spread broadcast among the profession and laity? Is a propaganda of this kind among women not likely to engender an hysterical and unwarranted fear of the highest function of their lives? Is it fair to womankind for reputable physicians, and here no reference to the ethical aspects of the case is intended, to urge upon the sex in the public press a demand for such a procedure in order to hasten its adoption and to denounce the objectors of their rose-colored propaganda with the statement that they are merely ignorant concerning the method? Thus far the daily press has been the forum for the more or less one-sided discussion by the advocates of 'twilight sleep,' and we have heard little by way of objection, for the honest objector hesitates to be subjected to ridicule because he has failed to become convinced of the value or necessity of the procedure.

"We do not wish to condemn 'twilight sleep,' nor to detract from the honest claims

made by those who state that they have tried out the method. The professional mind should be open to receive from legitimate sources any information which will tend to relieve human suffering. It should be free from prejudice, free from the desire of personal gain in judging the value of a new procedure, ready to discuss in a frank and open manner the pro and con of the question, to employ the forum of personal interview, the society meeting and the medical press, and not the medium of the popular press. If medical opinion can be guided by an impartial study and trial of this procedure, the latter will not lack deserving attention, but the senseless reiteration of its wonders by writers and speakers, both lay and professional, such as have been published within recent months, may be justly regarded as undignified and questionable. If the production of a condition of semi-narcosis as a routine procedure in normal labor is shown to be a desirable necessity, such a method will soon enough be adopted by the profession. Thus far the evidence adduced is not sufficient to warrant such a course. The indiscriminate employment of the method is bound to be harmful, will detract from its possible value and will hasten its relegation to the great unknown where now repose so many exploded medical practices and fancies."

Would you give your wife 'twilight'?

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Who would have thought that the tin can is a menace to the public health? The expert malaria investigators of the United States Public Health Service have found, however, that discarded tin cans containing rainwater are breeding places for the mosquito which is the sole agent in spreading malaria. A hole in the bottom of the empty can might have resulted in the saving of a human life. Certainly it would have assisted in preventing a debilitating illness. Empty tin cans have no business about the premises, anyway, but if we must so decorate our backyards, let's see to it that the can has a hole in the bottom.

Does your card appear in the Professional Directory?

THE TREATMENT OF GONORRHEA AND SOME OF THE MOST FREQUENT COMPLICATIONS FROM THE STAND-POINT OF THE GENERAL PRACTITIONER.*

By J. Calvin Weaver, M. D., Associate Professor of Surgery, Atlanta Medical College, Physician and Surgeon to U. S. Penitentiary, Atlanta.

When we consider the immediate suffering from acute gonorrhea, and we appreciate with a keen insight the direful end results that may, and probably will, follow—the blinded eyes of innocent children, the childless homes with the disappointment and loneliness attendant thereon; when we behold the roses fading from the cheeks of many of the fairest and noblest of our young womanhood who have recently taken the marital vow; when we weigh, from an economical standpoint, the burden from lessened efficiency from the neuroses and morbid reflexes, all resulting from a gonorrheal infection and the distal results therefrom, it leaves no room nor indication for apology for bringing into the notice of your general practitioners, upon whom so many of the medical responsibilities fall, the already threadbare subject of gonorrhea.

In the first instance, the eyes of innocent children have had the light and beauties of the world shut from them forever, a large percentage of all cases of blindness resulting from this cause, a calamity which could be easily prevented and which should never occur. In the second instance, we often find almost immediately following marriage, an acute salpingitis with pelvic peritonitis, which the vigor and strength of youth may throw off to an apparent recovery, or the young wife, gradually declining into a state of invalidism, resulting from a salpingitis, finds herself facing the situation which the pathologists have outlined as follows: "The inflammation may subside completely, leaving behind some slight fibrous thickening of the tube wall and a few adhesions about the fimbriated extremity. In other cases, as the result of the desquamation of the surface epithelium, adhesions may form between the folds of the mucous membrane, causing a narrowing of the lumen, or even complete obstruction. The acute inflammation may

pass into a chronic inflammation, as the result of which a marked inflammatory reaction takes place in the walls of the tube, causing them to be greatly thickened. In almost any event the result means a childless home with the attendant dangers and disappointments." Again, and back to our own sex, we are all familiar with the man, the lost manhood type, nervous, morose, depressed, memory weakening, in the slough of despond, suffering untold miseries from morbid reflex neuroses, from a probable gonorrheal prostatitis, which the genito-urinary surgeon assures us will require months and months to cure.

Historians tell us that the gonococcus made its initial appearance in 1545, the century in which the genito-urinary surgeon was no more than the "medicus reclus" who received ambassadors bringing gifts and vessels of urine, and carrying back answers more presumptuous than the wise response of Falstaff's physician. Thanks to the microscope and other improved facilities the answers would not be so presumptuous now.

When the bacteriologists tell us that the gonococci penetrate subjacent connective tissue of the urethra and can sometimes be demonstrated there after a lapse of two years, that they are found in the prostate and that pure cultures have been found in cases of peri-urethral abscess and epididymitis, that the damage to tissues from this infection invites other infections, as the bacillus coli, pyogenic cocci, etc., that they have been found in the suppuration of Bartholin's glands, in inflammatory conditions of the mucous membrane, of the uterus, that they pass along the Fallopian tubes, causing a pyro-salpinx, also to the peritoneum, producing a peritonitis, though usually and fortunately of a local character, when we consider the destructive virulency in conjunctivitis, that pure cultures have been found in cases of arthritis, that gonorrheal endocarditis does exist and that gonorrheal septicaemia is not a myth, I feel that no matter how great a diversity of opinion may develop as to the best method of treatment, we will all be a unit in agreeing with Taylor's assertion that when we consider the vast range of pathological conditions which gonorrhea may cause or lead to, we are certainly warranted in asserting that it is, taken as a whole, one of the most formidable and far-reaching infections by which the human race is attacked.

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

In the matter of treatment we are all aware of the unsatisfactory results, which, it seems to me, comes in part, at least, from unscientific and illogical procedures. The innumerable methods and prescriptions which have caused such lucrative fields for the patent medicine companies, stand sponsor for this assertion, and my hope today is to impress on you the importance of careful, painstaking treatment, to stimulate a possible lagging interest in combating this venereal scourge, and to help you towards more satisfactory results by presenting a concise, simplified treatment of gonorrheal urethritis, and the more frequent complications.

My reason for including complications is because you will have two classes of patients to treat:

1. Patients who present themselves with gonorrhea confined to anterior urethra, and which you will carry on to recovery as an anterior urethritis, avoiding complications and the dangers.

2. Patients who have allowed the infection to encroach on the posterior urethra, making possible all complications, as the result of delay while using stock prescriptions, as injections, patent medicines and injudicious irrigations.

The field is difficult of treatment, as we will see from embryology and anatomy.

In the development of the genito-urinary tract, the urinary and reproductive organs were made into one system by their simultaneous opening into the cloaca (the enlarged caudal portion of the embryonic digestive tract).

The sub-division of the enlarged caudal portion transformed the dorsal part into the urinary bladder, urethra and urethro-genital sinus, amalgamating the two systems, one the urinary and one the genital.

From an anatomical standpoint, the urethra is a tubular canal, averaging 8" in length, whose walls, when at rest, lie in opposition. Beginning in the fossa-navicularis we find in the roof a large mucous crypt, the lacuna magna, while in the meshes of the carpus spongiosum are true glands of Littre opening into the urethral floor. In the roof of the anterior urethra are small pinhole depressions known as crypts of Morgagni, while in the bulb of the urethra are the small openings from Cowper's glands. The posterior urethra, the part of all parts that must be protected, is rich in follicles and glands. Here we find the verumontanum,

sinus pocularis, the openings of the ejaculatory ducts, the opening of the prostatic ducts, and it is in this field, so rich in glands and openings, that infections creep into the organs that complete the chain constituting the g-u tract. Eliminate the infection from the posterior urethra and the battle is half won.

TREATMENT—Given a patient with an initial attack of gonorrheal urethritis, probably of four or five days' duration, discharge profuse, meatus swollen and pouting, extreme pain on urination, typical acute inflammatory reaction,

1st—Glass urine cloudy and thick with pus.

2d—Glass urine cloudy and not so thick.

3d—Glass urine cloudy and clear, showing acute anterior urethritis.

In such a condition of acute inflammation, nature has given us one asset which will be of great assistance in the treatment, **rest**, local and general.

"Rest is the necessary antecedent to the healthy accomplishment of both repair and growth, a means toward an end, which should never be lost sight of by the physician or surgeon; both growth and repair being in direct ratio to physiological rest, local and general."

How shall the necessary rest be obtained? Of course, business conditions will prevent ideal rest, but much can be accomplished with this in view; pain is the anthesis of rest, so when, with hydrostatic irrigations, the inflamed, swollen urethra is dilated to the extent of excruciating pain, a sensitive patient sometimes fainting, we are defeating our purpose and efforts to obtain **rest**, so in the acute state, **irrigation** must be absolutely interdicted and the logical procedure of treating from the non-infected, healthy area towards the diseased area must be instituted instead of the illogical method of treating the infected parts towards the normal areas, the treatment being in keeping with the principles of drainage; so rest means avoiding pain, giving non-irritating, soothing balsams, which also inhibit bacterial growth, diluting urine with alkalis and by having patient drink large amounts of water, avoiding vascular excitement resulting from erotic thoughts and temptations, also the turbulence from alcoholic drinks, carbonated drinks, highly seasoned foods and by interdicting tomatoes and asparagus, especially carry a sufficient percentage of mercaptonic acid to prove irritating to an inflamed mu-

cous membrane. In these acute cases the internal treatment should be confined to sandalwood oil and alkalies, as suggested by O'Crowley, the following R^e serving as an example:

R^e Potassium citrate

Sandalwood oil, a.a. oz. ss

Syr. Juvans, q.s. oz. VI.

"Voigt." Make emulsion.

Sig. Two drachms after each meal tid., followed by large draught of water.

This should be taken undiluted. The syrup juvans is a good mucilaginous vehicle, disguising satisfactorily the sandalwood oil. If this should derange an unusually sensitive and fickle stomach, there are dozens of the proprietary preparations which can be substituted with satisfaction.

With the subsidence of the swelling and pouting of the meatus, local treatment, as also suggested by O'Crowley, should be instituted as follows: With a Keys-Ultzman syringe a 30% to 50% argyrol solution, which should be made fresh at each treatment, is injected into the deep urethra and allowed to remain fifteen minutes, being retained by an O'Crowley clamp. You will know the canula is in the deep urethra when it reaches an angle of 90 degrees, with the body of the patient lying on the table. As soon as the clamp is removed, the penis is covered by absorbent cotton held on by a small rubber band until patient urinates again. I use this treatment every two days for two and a half weeks, then begin deep injections of silver nitrate, 1-500 to 1-300, twice a week. This treatment, under which patient improves generally, is continued until urine becomes clear with shreds. It is then, and not until then, that we feel safe in risking a hand injection to the patients.

With first glass clear with shreds.

2d—Glass clear, we give an astringent injection, as follows:

R—Zinc Sulphate,

Carbolic Acid,

Pulv. Alum, a.a., grs. IV.

Glycerine, drams IV.

Water, oz. IV.

To be used twice a day as injection.

Instead of this you may use Layos Colorless Hydrastis, full strength, tid., gradually diminishing to twice, then once daily, always mindful of the fact that as long as there are shreds with pus, there is danger of infection, though no gonococci may be demonstrated.

If shreds appear inclined to persist in first glass, careful, thorough dilation with a Kohlmann dilator, followed by irrigations with sol. silver nitrate, is indicated; begin with 1 gr. to quart and gradually strengthen.

Given a patient in whom the infection has already extended to the deep urethra, all three glasses being cloudy from pus, the internal treatment remains the same, while instead of the instillations should be substituted hydrostatic irrigations of the bladder of mild antiseptic solutions of 2% boric or a very mild solution of oxycyanide of mercury, daily. As the inflammation subsides the solution may be changed to silver nitrate, beginning as before stated, with 1 gr. to quart.

To enter into the treatment of chronic gonorrheal urethritis, would lead us through volumes and require an unreasonable amount of time, so I can not do better than use Guiteras' summary as follows, which will cover the large majority of cases from a practical standpoint:

"Chronic areas of inflammation, soft and hard infiltrates, granular patches, erosions and ulcers, are usually cured by dilatations with sounds or dilators every other day, followed by irrigations of silver nitrate solutions and by astringent injections at home." I prefer the Kohlmann dilator, as you get the good results of dilatation without the discomfort of the sound.

The isolated, obstinate cases must be treated through the urethroscope.

COMPLICATIONS—Probably 95% of the cases diagnosed as orchitis are really epididymitis, as the testicle is rich in defense in the tunica albuginea, which arrests infection in the rich and elaborate blood supply resulting from anastomosis between the spermatic, deferential and funicular arteries and the rich network of lymphatics, while the epididymus suffers a comparative poverty of lymphatics. It has been suggested that the testicle probably has a selective function which may probably account for its freedom from invasion of the gonococci.

The most satisfactory treatment in my experience is the simple epididymotomy, suggested to me by my friend, Dr. E. P. Merritt. It affords almost instant relief from pain, early return to work, and, to my mind, is the logical procedure. The scrotum is thoroughly cleaned as if in preparation for any operation. Inject 1% cocaine into the skin over the most prominent swollen portion.

Make a small incision with sharp bistoury down to the epididymis with probe or grooved director. A gauze drain soaked in boro-glyceride is inserted to bottom of incision, with a moist gauze dressing soaked in glycerine enveloping the scrotum. Rubber tissue is placed over this with absorbent cotton covering the entire dressing; often, as if by magic, the pain and throbbing ceases, swelling rapidly subsides and in twenty-four hours drainage has accomplished what generally requires days to do with local applications in a slow, unsatisfactory manner.

As to bubo, the large majority of cases should be aborted, if properly and carefully handled. Paint the area with tincture of iodine, allowing it to thoroughly dry; cover with gauze, moistened with glycerine, which in turn is covered with rubber tissue; a thick layer of absorbent cotton or wool is placed over this and a tight snug spica bandage is obtained.

To many, spica bandages are of no service, because improperly applied. It should be given two turns around the waist, then down on thigh for two turns around thigh, back to waist for two turns and repeat around thigh. This extra turn each time acts as a splint and causes it to stay put. The large majority of bubos will fade away under this treatment in a few days. If suppuration threatens, apply poultices and open with vertical incision to promote drainage while standing.

Cases of phimosis, which always convince us of the importance of circumcision, will invariably clear up with the use of silver nitrate solution, gr. 1 to 1 ounce, with medicine dropper, "black wash" being used as adjunct dressing. The silver solution being carefully placed under the foreskin once or twice a day, while the penis is kept dressed with gauze moistened with "black wash."

Before concluding let us discuss just briefly the time when a gonorrheal patient may safely marry. This is of utmost importance from a sociological standpoint, for reasons of which you are already familiar. Guiteras, quoting from the interesting statistics of the Committee on Prophylaxis of Venereal Diseases, Washington State Medical Association, says: "Eighty per cent of all men in large cities have gonorrhea once or several times. 45% infect their wives. 80% of all operations on women for diseases of womb or annexa are caused by gonorrhea.

"Twenty per cent of blindness is due to

germs of gonorrhea entering the eyes of children at birth." I can not do better than quote Guiteras' summary as follows: "As long as there are the minutest shreds in the urine, especially if these contain pus cells, or there are gonococci or pus in the massaged products from the prostate or vesicles and as long as there are lesions demonstrable by the urethroscope in an unhealed state, the practitioner should refuse his sanction to marriage." Such cases should be prolonged for months, if necessary, under appropriate treatment, until no gonococci or pus can be found and all probability of infection has been removed.

In summarizing, I would commend to you the treatment of acute urethritis as outlined, both as to cure and the avoidance of complications, the limited armamentarium needed, the value of silver nitrate, our best antiseptic for the urethra; also the procedure of epididymotomy for the early and satisfactory relief of acute epididymitis, lessening the probability of chronic epididymitis and sterility, while last and most important of all, I would impress on you the responsibility attendant on the handling of the gonorrheal patients.

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DR. BERNARD WOLFF.

Just as we are going to press we learn of the death, in Atlanta, of Dr. Bernard Wolff.

Dr. Wolff was for years editor of The Atlanta Journal-Record of Medicine, but more recently had devoted himself to his specialty of Dermatology.

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LANDRY'S PARALYSIS—REPORT OF A CASE.*

By **Hansell Crenshaw, M.D., Director Oakwood Sanitarium, and Neurologist to Grady Hospital, Atlanta, Ga.**

Few diseases present a more dramatic picture than the rapidly ascending paralysis first described by Landry in 1861. Consequently case histories of this malady are always of interest, even when typical; but particularly are such histories worth while when, instead of reporting the almost inviolable fatal issue, they record recovery, as in this instance.

Complaining of inability to walk, a young man, 20 years old, and motorcycle mechanic by trade, entered Grady Hospital July 1st. He had been well till two days before, when he first noticed weakness in his toes and feet. Within twenty-four hours this weakness involved both knees, and on the third day he was brought to the hospital. At examination, which occurred on the afternoon of the third day, there was complete flacid paralysis of the lower extremities, including the muscles about the hips. On the following day this paralysis had spread upward till it affected all the voluntary muscles of the body, not sparing those of the face. The patient was unable to move either leg and could barely move the fingers of either hand. The facial paralysis was such that neither the eyes nor lips could be closed.

In contrast to the condition of the voluntary muscular system, the involuntary and semi-voluntary muscles were normal in action, there being no disturbance of sphincters, respiratory or cardiac muscles.

Common sensation, temperature sense, ability to feel pain, and all special senses were normal, except that there was marked tenderness of the extremities. Also the pupils reacted well to light and accommodation.

The reflexes, however, were markedly affected. Thus the knee-jerks were abolished, and the triceps reflex was greatly diminished. Before the writer saw the patient, internes at the hospital had made out a positive Romberg test, but, of course, this was a pseudo-sign due to muscular weakness of the legs and back.

Two typical features were, first, the ab-

sence of fever, and, second, a perfectly clear mind.

Laboratory investigation gave the following results: Urine, normal; Wassermann of blood, negative; culture of blood, negative; blood count, normal; feces, positive for hookworms. Some disappointment was felt because we failed to grow a diplococcus from the blood, since several observers have been able to do this. Whether the hookworms played any role in the genesis of this case or not is problematical.

The fact that the patient was a constant rider of motorcycles probably is significant. The violent jarring of the spine might well have contributed towards setting up the ascending myelitis which is known to be the chief pathologic feature of the disease.

Treatment consisted of rest in bed, two courses of thymol for the intestinal parasites, full doses of ergot q. 4 h, and alternate use of tincture of iron chloride and strychnine sulphate. A full diet was administered throughout.

Instead of passing out within the first ten days, as is usual in such cases, this patient remained stationary as to symptoms for three weeks, then gradually began to regain power in the muscles of his face. A week later he was able to move his arms and hands, and thereafter slowly regained the use of the muscles of his back and legs. The return of muscular power was in reverse order to the loss of it at the beginning of the case.

At this stage the neuritis had sufficiently abated for faradic electricity to be applied twice daily to the whole voluntary muscular system, and this seemed to greatly hasten recovery.

At the end of the tenth week the patient was able to walk feebly and was dismissed from the hospital as practically well.

Ergot and faradic electricity appeared to be the two most helpful agents in the management of this case.

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*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

CONTRACT WORK WITH LIFE INSURANCE COMPANIES FOR LESS THAN FIVE DOLLARS FOR EACH EXAMINATION BY MEMBERS OF MEDICAL SOCIETIES.

M. L. Currie, M.D., Vidalia, Ga.

My object for presenting this paper on this occasion is to get the sentiment of the members of this Association, and to arrive at a mode of procedure that will be just to everybody concerned.

We all know that no Life Insurance Company will obligate with any of our members for a stipulated amount annually without expecting to be benefited by it. Years ago I, as well as some of you, was requested by some of these companies to agree to do their examining for \$3.00, when the insurance applied for was for \$2,000.00 and less. In reply to this request, I stated that I was with the majority of the best and most ethical medical men of the United States—that is, if the majority agreed to do this work for \$3.00, then I would, otherwise I would contend for the regular price of \$5.00. Since then I have always received the regular fee.

Now, gentlemen, some of you, as well as myself, have neighbor physicians who are harping on yearly contracts with the New York Life Insurance Company, and are going around in your territory making these examinations for \$3.00 each. One of our members claims that the company pays him \$3.00, and that the agent or applicant pays him the other \$2.00.

Now, what I wish to know is the proper or best mode of procedure. Can our members do this work in this way and not discount the importance and advantages of a regular fee bill, as well as the membership in our noble profession. It seems to me that these contractors show an unwillingness to come out in the open and take their chances in the broad field of competition along ethical lines of the profession. I do not see how I could be satisfied to disregard the established price of \$5.00 and do this work for less, even if at the end my receipts were more. It is best for us all to feel good and satisfied with what we receive, let it be ever so small. It is pleasing, indeed, to know that we have always treated our brothers in the profession just right.

ANTERIOR POLIOMYELITIS—CONCERNING THE TREATMENT OF INFANTILE PARALYSIS.

H. M. Michel, M.D., Augusta, Ga.

The methods of treatment of anterior poliomyelitis, or infantile paralysis, should be of interest to us because the disease is widely prevalent among us, and seems to be on the increase, and because if the correct treatment is not pursued, such victims as survive the initial attack may be physically wrecked.

The whole subject has assumed greater importance within recent years due to the proved infectiousness of the malady, its more accurate recognition and to the more facile means that modern surgery has brought to bear in combatting it.

For all of our increasing knowledge about the etiology, pathology and epidemiology of infantile paralysis, we must confess that we have made but little advance in the treatment of the disease in its acute stage.

Flexner and his associates at the Rockefeller Institute, and a number of workers in France, have identified and cultivated the virus, and elaborate studies have disclosed a mass of interesting and important facts with regard to the manner in which the infection is spread and caught.

Prophylaxis can be compassed nowadays better than was formerly the case. Patients can be isolated, their nasal, buccal and pharyngeal secretions can be appropriately dealt with, and "carriers" can be rendered less dangerous to others by the local use of antiseptics. But once the infection is caught and has attacked the central nervous system we find ourselves impotent to fight it by means of drugs. As has been emphasized by Robert Jones, the surgical treatment of the acute stage may be summed up in the word Rest, which includes the correction of such vicious postures as may lead to subsequent deformity. No attempts at active treatment should be undertaken during the stage of pain or tenderness, that is for about one or two months from the inception of the disease.

During this period perhaps the best results are obtained by rigid fixation by means of plaster of paris bandages of the spine and limbs. Our first efforts toward active treat-

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

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ment should consist in placing the limbs in such positions as to relax the paralyzed muscles, in such active movements as can be carried out without strain to the relaxed muscles, with possibly the addition of very gentle massage. Too much stress can not be laid on the importance of the character of the massage, very great harm may be done to weak and fragile muscle fibre by vigorous or rough handling. We are often called upon to answer whether or not a given group of muscles that give the reaction of degeneration are by no means always beyond the pale of hope of recovery. One should endeavor to ascertain whether the paralyzed muscles are suffering from the effects of overstretching or whether there has been an actual destruction of spinal cells. We may assume that a muscle has lost its function if it does not improve under intelligent treatment in the course of a year. We should consider it axiomatic that all fixed deformities should be corrected before any operative attempts are made to secure better muscular function. Deformities may be overcome by forcible manipulations under anesthesia, with subsequent fixation, by tenotomies and sometimes by osteotomies.

Tendons are transplanted with a view to restoring muscular balance, and unless the transplanted tendon bids fair to substitute the muscle it supplants, no good can come of the procedure. As a tree is judged by its fruit, so a muscle is judged by its usefulness. Mr. A. H. Tubby has pointed out that we can not be guided entirely by the charts that have been worked out as to the relative strength of muscles, and if we were to abide by them each time we desired to transplant a tendon we should probably be discouraged at the very threshold. As he remarks the tibialis anticus would be too strong to supplant the peronei and the peronei too weak to act for the tibial group. Although it is interesting to know that the calf muscles are as strong as all the other muscles of the foot put together, we should not infer from this fact that in pes calcaneus no tendon transplantations need be tried. Careful training often develops healthy muscles to an extraordinary extent, and transplanted muscles may also be developed by special exercises. Obviously transplantations are most successful when the paralyzed group is limited and when we are able to substitute tendons that act in approximately the same direction. Careful noting of the active move-

ments of a muscle is the best index of its usefulness, for a muscle may respond to faradism and yet not be fit for transplantation. Certain movements of joints are less important than others; therefore, we are justified in sacrificing them. As for example in the foot abduction, and adduction being of less moment than plantar flexion and dorsiflexion, we should not hesitate to secure the latter at the expense of the former. Various methods of implantation have been advocated. Vulpius and Lange fasten the graft into the periosteum, and others employ silk in the nature of an artificial tendon. In my own experience the method giving by far the best results is that of introducing the reinforcing tendon directly into the bone. This, I think, should always be done whenever it is possible. The technique I employ is that of Sir Robert Jones, and can be indicated by describing the operation of transforming the peroneus longus into an inverter of the foot. A tourniquet is applied above the knee, and not removed until the wound is dressed. This prevents bleeding, which, if extensive, may endanger the security of the graft. An incision is made on the outer side of the foot and the tendon is divided where it turns around the cuboid bone. Next a small incision is made above the external malleolus in the long axis of the muscle, and the tendon is drawn through this opening. Then an incision is made over the scaphoid and a pair of curved forceps is passed from this to the upper wound, through fat, if possible, and so manipulated as to make a tunnel. The end of the tendon is now grasped by the forceps and drawn down through the tunnel to its new insertion. The direction of the tunnel should be parallel to the direction of the tibialis anticus, and there should be no angle in any part of the course. A hole is then drilled through the scaphoid or the internal cuneiform, and the tendon passed through this and secured. In the event that the tendon is too short for this, a groove may be made in the bone, and the tendon placed within it, the end being fastened to ligamentous tissue below by means of catgut. The wounds are now closed and the foot bandaged in inversion. Sir Robert says that the important part of the technique is first never to handle the tendon with forceps anywhere excepting at its periphery, to pass it through fat, to secure the transplanted end in firm, unyielding tissue and to see that the alignment makes for a direct

pull. Rough handling of a tendon will produce adhesions between it and the surrounding tissues; therefore, it should be compressed nowhere except at its point of attachment. Care should be taken to have the tunnel through which the tendon passes large enough, and it should be on the same plane and not perforating various layers of the soft tissues. The reinforcing tendon is not expected to correct deformities, these having been corrected before operation was undertaken. To avoid adhesions it is well to make the tunnel a little to one side of the skin incision. If possible, it is always best to choose a muscle for transplantation, whose function is similar to the one which is paralyzed. Niece judgment is required in estimating the proper degree of tension to which the transplanted tendon is subjected. It is well known that muscles which are on a stretch are at a disadvantage, and on the other hand if the tendon is left too slack, restoration of function will be unduly delayed. A long period of fixation is necessary to protect the graft from all strain until such time as it has become firmly attached in its new situation. This is accomplished by some form of removable splint which will allow the use of gentle massage and active movements against resistance at the appropriate time. Kirrmission and others have noted that it sometimes occurs that cases may show immediate improvement, which is later followed by loss of function in the transplanted muscle. This is due either to failure to select a reinforcing tendon sufficiently strong or that too much tension has been exerted upon it.

Very young children should not be operated upon; because, in the first place, we should be sure that sufficient time has elapsed to cause us to abandon all hope of recovery without operation, then very small tendons are difficult to handle, and, too, the child should be old enough to help us in the muscle education, which should follow the period of fixation.

From a physiological viewpoint it is interesting to speculate, if somewhat difficult to understand how a flexor can be educated to become an extensor, as in Tubby's operation at the wrist joint, or an inverter of the ankle be trained into an evertor. Yet that such new functions can result from training is a matter of common knowledge, and, as Jones says, this is particularly true in children, certainly in adults a long and uncer-

tain struggle between the opponent groups of muscles is often observed, suggesting that the older the patient the more difficult the education. In those cases in which a sufficient time has elapsed to make us certain that the paralysis is complete and permanent we have to consider those measures that will ensure the stability of the joints, rather than their mobility; namely, the use of artificial ligaments of silk, arthrodesis of the destruction of the joint and fixation by means of tendons. This latter procedure was first suggested by Tilanus and can be very generally utilized. As it involves sacrificing the tendon we must be quite certain that there remains no hope of recovery.

The original operation of Tilanus was devised to correct extreme degrees of eversion of the foot by utilizing the tendon of the tibialis anticus as a ligament. Since that epoch, however, similar operations are done with regard to other joints. This procedure is superior to the use of silk threads for the making of artificial ligaments, because no foreign substance has been introduced. In the case of flail joints, in the present state of our knowledge arthrodesis is our best resource. This is a destruction of the function of the joint by removing the cartilage from its component parts, and, therefore, should be held in reserve as a last resort. With one or another of the methods which have been mentioned above it should be encouraging to us to hope that in some cases we are able to improve greatly the condition of the unfortunate victims of this dreadful malady.

DISCUSSION ON THE PAPER OF DR. MICHEL.

Dr. C. C. Harrold, Macon: I think we have approximately three million citizens in Georgia, which is approximately the size of New York City. There are only three or four men in Georgia at the outside who are doing orthopedic work, and the fact that they are not worked to death, so to speak, is our fault, and it means that there are hundreds of these children that are being neglected throughout the state.

This tendon work is not hard work, but it is work of men who know what they are doing, and if these cases could be gathered in there would be plenty of work for them to do. I do not know how many of these cases of neglected paralysis there are in the state, but unquestionably there are hundreds

of them. I seldom go out in my machine around this town (Macon) without seeing some crippled child, and in four cases out of five it is a question of drop foot following infantile paralysis. The vast majority of children of this type can be helped a great deal with proper attention. Of course, some of the counties in the state have no hospitals where these children can get the same attention. They do not get the attention they should get in Bibb County. Some provision should be made for getting these children where they have no hospitals to the centers of population. They should attract the attention of our profession throughout the state. Dr. Hoke tried to arouse interest a few years ago in getting a state institution for these children. He informed me that practically little or no interest was taken in it at all. It occurs to me, if the men in the counties could get some provision made by the county boards of health to take care of these unfortunate cripples, have a ward set aside for them where they can be treated by men who are competent to do this work, it should be done. There are so many of them neglected and so many of them that could be helped. I have seen Robert Jones, of Liverpool, do his work. The author quoted Jones and said the work was not difficult for an expert. I have seen Jones do twelve or fourteen of these operations in the course of four hours. I hope the profession will take an interest in this kind of work.

Dr. Walter Norton, Savannah: I was much interested in Dr. Michel's paper because I think it is a most important subject, and I was also pleased to hear what Dr. Harrold had to say about it.

There are many good surgeons who can do the ordinary surgical operation beautifully and skillfully, but when it comes to transplanting tendons it is a work which can only be done by an expert. I consider this one of the most promising fields in surgery today, that is transplantation of tissues and the transplantation of tendons. I have seen Dr. William S. Baer, of the Johns Hopkins, transplant tendons, and he always says that the tendon should be transplanted into the bone directly if possible. Baer's method is to transplant the tendon into the bone if he can do it, and one point he calls attention to is with reference to handling the tissues very carefully. Dr. Michel brought that point out. If you do not do so you will get

adhesions of the tendons. The autogenous grafting of tendons is the only kind of tendon-grafting which is practicable. In the grafting of tissues generally heterogenous grafts have not proved satisfactory.

I am much interested in this subject, and I think the surgeons of Georgia should send their cases to those who are competent to do this work. All of us ought to look around and make inquiries because there are lots of these children walking around who can be helped by experts in this line. These cases should be sent to orthopedic surgeons who are prepared to do the work properly.

Dr. F. W. McRae, Atlanta: There is one side of the subject that appeals to me very much and ought to appeal to all of us, and especially the general practitioner, and that is the early recognition of the condition and of the fact that it is an infectious disease that can be greatly benefited by early treatment and that these tired muscles, a great many of them, are chargeable to a lack of knowledge or a lack of care on the part of the general practitioner in the early stages of this disease which is a typical infection. That is where the greatest good can be accomplished. There is where the work of the general practitioner comes in; later the tendon transplantation as a correction of the deformities can be only done by the occasional expert, but it is the work here that is going to be of the greatest value—early recognition and early treatment of the primary condition, and then the early treatment of the paralysis.

Dr. Michel (closing): I was very much gratified to hear what Dr. Harrold had to say about the number of cases in Georgia. I am also pleased to notice that the fact was recognized that this is an infectious disease, coming as it does overnight with the early symptoms. The medical man not infrequently sees a child who is taken sick after having played all day, with slight fever, and practically nothing but a feeling of malaise and pain in the limbs, and from that time on is hopelessly paralyzed.

If my paper had shown anything, it was an effort to show that these children are practically paralyzed and ruined for life. I have had many cases brought to me where the medical man has looked after them for years, and has offered no encouragement or has made no improvement in their condition at all.

Dr. McRae spoke about the family physician who first sees these cases. At first, during the acute stage there is very little that can be done so far as medicine is concerned, but the one thing that the general practitioner can do, and that is to promptly fix the joints and spinal column by some such arrangement as a plaster of paris jacket or other methods of fixation. This would allow of relaxation of the muscles, and enable us to prevent degeneration of muscular tissue, and also a very important thing is the prevention of deformity. In all of these cases, although you can do nothing towards improving the mobility, you can prevent deformity, and deformity comes on apparently because one good muscle is stronger than the other, and is not opposed and gradually pulls the limb into a position of deformity.

PAPERS PROMISED FOR THE 1916 MEETING.

Columbus, April 19-20-21, 1916.

- 1—Gastro-Enterostomy for the Two Extremes in Life—E. C. Davis, Atlanta.
- 2—A Treatment for Infectious Diarrhoeas in Infancy—W. A. Mulherin, Augusta.
- 3—Removal of Foreign Bodies From the Globe by the Electro Magnet—F. Phinizy Calhoun, Atlanta.
- 4—Angina Pectoris—Stewart R. Roberts, Atlanta.
- 5—Hydrotherapy—W. W. Blackman, Atlanta.
- 6—The Value of the Cystoscope in the Diagnosis of Genito-Urinary Conditions—E. P. Merritt, Atlanta.
- 7—The History of Syphilis—Bernard Wolff, Atlanta.
- 8—The Etiology of Syphilis and Chancre—E. G. Ballenger, Atlanta.
- 9—Cutaneous Syphilis—M. B. Hutchins, Atlanta.
- 10—The So-Called Tertiary Syphilis—W. L. Champion, Atlanta.
- 11—The Pathology of Syphilis—E. C. Thrash, Atlanta.
- 12—The Wassermann versus the Noguchi Reaction—A. H. Bunce, Atlanta.

- 13—The Value of the Serological Tests for Syphilis—J. E. Paullin, Atlanta.
- 14—Salvarsan in the Treatment of Syphilis—Cosby Swanson, Atlanta.
- 15—The Treatment of Syphilis Other Than With Salvarsan—C. A. Wilkins, Atlanta.
- 16—Practical Cystoscopy—A. L. Fowler, Atlanta.
- 17—Some Pathological Conditions of the Salivary Glands and Their Treatment—Dunbar Roy, Atlanta.
- 18—Lantern Demonstration—E. G. Jones, Atlanta.
- 19—The Diagnosis of Duodenal Ulcer, X-ray and Otherwise (Lantern Demonstration)—George M. Niles, Atlanta.
- 20—Cancer of the Breast—L. C. Fischer, Atlanta.
- 21—The Acute Abdomen—W. F. Westmoreland, Atlanta.
- 22—The evolution of Medicine in Georgia—T. R. Wright, Augusta.

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VOL. V.

AUGUSTA, GA., APRIL, 1916

No. 12

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IRIS INJURIES AND ANOMALIES*

By Dr. Cecil Stockard, Atlanta.

Iris injuries and anomalies rarely exist alone, but are usually complicated, in the case of injuries, by injuries of the cornea, ciliary body or lens, and in anomalies there is usually associated an anomaly of the ciliary or chorioid.

Injuries may be best considered by dividing them into non-perforating and perforating injuries. Of non-perforating injuries probably the most common is traumatic iritis. This condition can exist either with or without other discoverable injury. Traumatic iritis, with the exception of the cause, is very similar to all other forms of iritis, and should receive similar treatment.

The sphincter muscle of the iris may be ruptured as a result of a blow. This condition may vary considerably in extent, when slight it is difficult to detect the gaping, but when the rupture is complete the pupil is widely dilated. The treatment consists of the combined use of atropine and eserine. The atropine paralysis the sphincter fibres

and prevents their tendency to draw still further apart, while the eserine relaxes the radiating fibres or dilator muscle of the iris. This is the only condition in ophthalmology where these two antagonistic drugs join forces to bring about a given result.

Traumatic mydriasis is sometimes difficult to differentiate from the preceding condition, but in this there is no actual tear of the iris tissue, but rather a paralysis of the sphincter. Eserine gives temporary relief only and should be used habitually, in order to keep the dilator pupillae relaxed as much as possible.

Iridodialysis is a rupture of the iris at its ciliary margin, and is characterized by the formation of a small artificial pupil at the periphery, and a corresponding flattening of the pupillary margin due to relaxation of the iris at this point. Iridodialysis is usually slight and the small artificial pupil is then of semilunar shape; at times, however, the detachment may be complete, giving a condition of traumatic iridiremia or aniridia, in these cases the anterior chamber is filled with blood. If the detachment is small, a reattachment may occur under the prolonged use of atropine. As a rule, however, the condition does not respond to treatment. A

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

complete detachment may occur in which the iris is discharged or pulled through a corneal perforation, and I have such a case to report at the close of this paper.

In rare instances the iris may become inverted, as a result of a sudden blow on the interior portion of the globe, the pupillary margin may be forced back beyond the lens margin. This is accompanied, of course, by rupture of the suspensory ligament of the lens, and if complete the lens is dislocated into the anterior chamber.

Iridodonesis is the condition in which the iris oscillates on slight motion of the head or eyes. This is usually due to the absence of the lens, either as a result of a cataract operation or otherwise, and simply indicates that the iris is without the support which is normally afforded by the lens.

Perforating wounds of the iris usually involve the cornea and lens or ciliary body. Simple wounds of the iris heal easily, and it is usually the complications which render wounds of this class serious. Perforations of the cornea are apt to lead to hernea of the iris.

As stated above, perforating injuries of the iris frequently involve also the ciliary body and the lens, and when this occurs serious sequellae are to be feared. In the case of the ciliary body being injured, sympathetic ophthalmia may supervene, necessitating enucleation and every lens injury is followed by opacity; this may be either a very small spot or may, if the injury is more extensive, develop a traumatic cataract which will require decision.

Another class of perforating wounds is those caused by the entrance of a foreign body. In these cases there is greater danger of infection, especially if the foreign body remains within the globe. Occasionally foreign substances become encysted in the parenchymatous portion of the iris and may remain for years without causing any irritation.

Traumatic polycoria or plurality of pupils may result from clean perforating wounds of the iris if the opening in the iris is not promptly filled with blood; in this event the opening remains permanent and is to all intents and purposes a secondary pupil.

In the treatment of all iris wounds strict antisepsis should be practised. Cocaine instillations will be needed in order to allow thorough examination, and atropine is indicated in practically all cases.

In discussing injuries of the iris a good deal has been said about treatment, but in the consideration of the subject of anomalies, although the subject is a very interesting one, I will have nothing to say in regard to treatment, as there is nothing which promises any benefit in the majority of these cases, and while occasionally operative procedures may be devised which may be of benefit, they will of necessity be planned so as to meet indications in an individual case, and do not admit of any general applications.

The simplest of all iris anomalies is persistent pupillary membrane. This usually consists of a few threads or fibres connecting the pupillary margins, although at times more extensive remains of the membrane are seen.

Irregular pigmentation is fairly common. Irregular portions of one or both irides may differ in color from the rest, or one entire iris may be blue or gray and the other brown. The markings on the iris are subject to wide variations. The author saw a case some years ago, in which all the letters of the alphabet were to be found in the markings of one or the other iris.

An eccentric pupil is one which does not coincide with the center of the iris. This condition is also called corectopia, or ectopia pupillae.

Polycoria or multiplicity of pupils is sometimes congenital. The traumatic form of this condition has already been described.

Coloboma is a cleft or partial absence of the iris due to faulty development. This condition is frequently associated with coloboma of the choroid or lens. This condition is usually monocular, but in the case of my patient it was binocular.

Congenital absence of the iris or aniridia is quite rare and is frequently associated with faulty development of the entire globe. In my case there was marked microphthalmia, the entire cornea not being over four or five millimetres in diameter.

Iridodonesis or tremulous iris is frequently present as a result of a congenitally absent or subluxed lens, and is not properly an anomaly of the iris per se.

I now wish to report four cases which seem to be of unusual interest. I had under observation at the clinic of the Atlanta Medical College three iris anomalies at one time. The first was pigment anomaly, a dark brown negro with bluish grey eyes. The eyes

were normal except for this absence of brown pigment which was very noticeable in view of his dark skin.

The second case was one of colobomata, the clefts appearing in the lower portions of both eyes, and quite symmetrical.

The third case was binocular aniridia, accompanied by marked microphthalmia, the corneae, as stated above, being about four or five millimetres in diameter.

These three anomalies make a very interesting series, and the opportunity of seeing all three at once and making comparisons was very interesting and unusual.

My last case is one of injury. J. S. (col.) was seated before the fireplace on Sunday night when a coal popped out of the fire and struck him in the right eye. The pain was not very severe and nothing was done until the next afternoon, when he went to the college to have the cinder removed. As there was no ophthalmologist in the building, the surgeon in charge attempted to remove a small black spot on the cornea. Finding it impossible to wipe it off with a cotton tipped toothpick, he grasped the supposed cinder with small forceps. The negro jumped, and at once exclaimed that he could not see. On examination the anterior chamber was found to be filled with blood, and a blackish thread was found on the forceps. When the blood had absorbed it was found that the entire iris was missing and a 4 mm pupillary disc the vision was 20-30 two weeks after the injury.

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A PLEA FOR THE PREVENTION OF INFANT BLINDNESS AND A PROTEST AGAINST OPTOMETRY*

Albert Mason, M. D., Waycross, Ga.

What follows is by no means a plea for the protection of the profession. It is in the interest of the public that these matters are brought to your attention. This association has rendered excellent service to the state the last few years. The bills we have supported and succeeded in having passed are of the greatest value to our people. But, there is work yet to be done. There is still room for improving the health conditions of the state.

Do you know that between one-fourth and one-third of the blindness in the world is the result of Ophthalmia Neonatorum? It's a fact. Statistics prove it. I might tell you that 17 per cent of the inmates of one blind school, 26 per cent of another, and 37 per cent of another are blind because of ophthalmia neonatorum. But, although these are actual figures from blind schools in three Southern states, they do not, perhaps, interest you. You are interested in your own state. Very well. I have been unable to get the figures for 1914, but there were enrolled in the Georgia Academy for the Blind in 1913 as pupils 88 whites and 26 colored persons, making a total of 114. The superintendent informed me that at least 35 were victims of ophthalmia, and that the percentage has run from 30 to 40 per cent in this school for a good many years. It has been estimated that there are between 15 and 20 thousands of blind persons in the United States, who have been made so by this disease. This, in spite of the fact that it can be prevented in 99 cases out of 100 by the use of one drop of a 2 per cent solution of silver nitrate in the eyes of the newborn.

Contrary to common belief, gonorrhea is not the sole cause of the disease. The colon bacillus, the staphylococcus, the streptococcus and other bacilla have been shown to be the etiological factor in some cases. Furthermore, silver nitrate used in the strength mentioned will do no damage to the eye, even if it does, in some cases, cause a violent reaction.

The proposed bill for the prevention of infant blindness has been drafted by the com-

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

mittee on the prevention of blindness, and was discussed by the Council on Health and Public Instruction at their conference in February of this year. It is entitled "An Act for the prevention of blindness from ophthalmia neonatorum; defining ophthalmia neonatorum; designating certain powers and duties and otherwise providing for the enforcement of this act." It defines ophthalmia neonatorum as any inflammation, swelling or redness, within two weeks after birth; it provides for the reporting by physicians, midwives, nurses, parents, or whoever is in immediate charge of the mother and infant, of all cases within six hours, as the State Board of Health shall direct; it directs that physicians, midwives, and the like, employ such prophylactic as the State Board of Health shall direct; it provides for free distribution of this prophylactic. Violation constitutes a misdemeanor punishable by a fine for the first offense of not more than \$50.00; for the second offense of not more than \$100.00, and for the third offense, and thereafter, not more than \$200.00.

This, in brief, is the bill offered for your endorsement. It does not require physicians to use a prophylactic immediately after the infant is born. This is left to your own judgement. The majority of you do so already. You will sign your birth certificates the same as you are now doing; but, should there be any swelling of the lids or redness you will be expected to use a prophylactic and report the case to the health officer.

Twelve states have already enacted this or similar legislation. Five years ago Dr. H. H. Martin appeared before you and pleaded for legislation along these lines. He received your endorsement, but the bill failed to pass the legislature. We again ask that your legislative committee be instructed to secure the passage of this bill.

The question of optometry is of equal importance. Optometry is a new profession—so-called—fostered by the national organization of opticians. Desirous of entering upon the practice of ophthalmology without conforming to the laws regulating the practice of medicine, these opticians call themselves "optometrists" and their trade "optometry;" they have formed colleges of optics and optometry, where for a small sum one may take a course by mail and receive a degree of doctor of optometry, doctor of op-

tics, or some equally important title, in from one week to six months.

They have succeeded in legalizing themselves in several states. Repeated efforts have been made to pass their bill in Georgia, but each time it has been defeated. At first, it required the opposition of but one man—Dr. H. H. Martin; later the ophthalmologists of the state got together and defeated it.

Evidently a still more diligent effort is to be made this summer to pass the bill, if I read the signs a-right, and it will probably take the combined efforts of the medical men of the state to defeat the project.

Shrewdly worded advertisements have been running in the larger dailies of the state tending to create a public opinion favorable to the self styled optometrists, of which the following are samples:

DRUGGING THE EYES

Dilating the pupils does not insure correct fitting glasses. Our glasses are fitted by modern drugless methods.

FOR ASTIGMATISM

Glasses can now be successfully fitted without dilating the pupils of the eye.

Such a campaign will eventually lead to success unless vigorously opposed, for the laity, from whose ranks our legislators are largely recruited, seeing and hearing nothing to the contrary, will naturally accept these statements and others like them as facts.

The Optometry Bill proposes to grant a license, under the seal of the state, to all opticians, and this includes itinerants, who have been following their trade for two years; it gives them power to license others through their examining board, over which they have exclusive control.

They claim optometry has no connection with medicine. Why, then, do they study anatomy, materia medica, physiology, therapeutics and pathology? Why, indeed, do their state boards ask such questions as What is a cataract? What is glaucoma? What is iritis? How does the retina appear in a bad case of albuminuria? (Questions and spelling copied verbatim. See A. M. A. Bulletin, Vol. 7, No. 1, p 19.) They claim to send all cases of disease of the eye to the ophthalmologist. This means they can diagnose any

and all eye conditions, which is absurdly silly, to say the least.

This legislation is unwise, undesirable and pernicious, and I ask that your legislative committee be instructed to oppose this bill and prevent its passage.

SOME POINTS IN THE TECHNIQUE OF THE SUBMUCOUS RESECTION OF THE NASAL SEPTUM*

By Newton Craig, M. D., Atlanta, Ga.

It is not my purpose to go into the details of such a well known procedure as a submucous resection of the nasal septum. I merely wish to call attention to a few important points in the technique of this operation which have forced themselves on my attention in a series of about 500 cases.

I invariably insist that this is a hospital operation. After many disagreeable experiences in my office and in hotels and private homes to which patients have gone after being operated upon in the office, I now operate only in hospitals. I use the semi-reclining position. This does away with the psychic shock, nausea and fainting which so frequently occur with the patient in the chair. There is no comparison between the sitting position in the chair and the semi-reclining position on the table. As far as the anesthesia is concerned, after trying ether, chloroform, cocain and morphine and hyoscine followed by cocain locally, I now use the latter with almost no exceptions. The patient is given one-sixth to one-half of a grain or morphine with one-onehundred-and-fiftieth to one-two-hundredth of hyoscine one hour before going to the operating room. By the time they are on the table the effect of the morphine and hyoscine has removed apprehension and quieted the nerves. In most cases the sensibility of the nose is markedly obtunded and the application of the 10 per cent solution of the cocain and epinephrin can be made with very little discomfort to the patient. I get the nose absolutely cocainized by going over the whole surface of the septum with small swabs dipped alternately with 10 per cent cocain and with one to one thousand epinephrin. The nose is then packed with pledgets of cotton moistened with epinephrin and 10 per cent cocain. This is left in for five minutes. No time is ever

gained which is saved at the expense of a thorough cocainization of the nose. Any time thus gained is more than lost in the later stages of the operation.

By carrying out this preliminary technique all hemorrhage during the operation is practically eliminated. I have no doubt that the action of hyoscine in itself has a marked effect in controlling hemorrhage. Since using the above method in preparing a patient for operation I have practically dispensed with any sponging whatever during the operation and as a rule when the operation is completed there is little if any sign of blood about the patient or the operating room. It is almost bloodless.

The primary incision should always be made far forward, regardless of where the deflection is. Otherwise there may be a buckling in the anterior part of the cartilage after healing has taken place and the surgeon be confronted with the deviation which did not exist before he operated. After the primary incision has been made the mucous membrane should be elevated without a tear over the whole field of the operation. This should be done no matter how much time it may take or how tedious it may be. This also means time saved. If no secondary hemorrhage is desired and prompt healing is sought this part of the technique is of highest importance. Every time a tear is made anywhere in the mucous flaps it means just that much more risk of a secondary hemorrhage and just that much more delay in the healing process. Any haste or unnecessary trauma at this stage of the operation is reprehensible and to be condemned. There is no need anyhow of doing intra-nasal operations by the stop watch. Having freed the septum of its membrane on both sides all deflection, whether in the shape of a bend or exostoses, should be entirely removed. It is just as easy to correct the entire deflection and put the septum where nature originally intended it to be as it is to do a partial operation and be confronted later with a deformity which you should have corrected. Besides that, after a partial operation is done nobody knows where that septum is going at the end of six months or a year. I have seen numbers of cases where a partial operation gave a clear nose temporarily but finally left a worse obstruction than originally existed. Get the outline of the septum clearly in mind before beginning the operation and then hew to that line.

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

Avoid trauma. No matter how thick the bone may be or how long the operation may take, take your time and avoid trauma. In this way you will avoid hemorrhage, avoid reaction, avoid infection, and your patient will be spared a great deal of discomfort.

In regard to packing, I believe that one side is all that is necessary. I put a comparatively light gauze packing in one side—just enough to hold the flap in place. Any hemorrhage subsequent to the operation can be controlled by having the nurse drop epinephrin in the nose. The packing is removed the next morning.

The patient will be spared a great deal of pain and discomfort if little or no mopping out is done for three or four days. It is unnecessary and very disagreeable. A simple oil spray is all that is necessary. I have never seen a hemorrhage after the first 24 hours.

In regard to nasal perforation, I am firmly convinced that they are almost without exception the result of haste or carelessness on the part of the operator. They are never to be desired, are frequently troublesome to the patient and to the doctor and can be avoided by care and patience in practically all cases.

The points I have wished to emphasize in this paper are the advantages of operating in a hospital, the thorough cocaineization of the nose before beginning to operate, making the primary incision far forward in all cases, the careful elevation of the mucous membrane over the whole field of operation without tear, the thorough correction of the deflection, the avoidance of all unnecessary trauma, the removal of the packing inside of 24 hours, the avoidance of meddlesome manipulation during the healing process. Experience warrants me in saying that all of these points are worth while and will promote better results, will save the patient discomfort, and will save the surgeon a great deal of trouble.

DISCUSSION OF THE PAPER OF DR. CRAIG.

Dr. A. A. Barge, Newton: I would like to ask Dr. Craig a question, namely, if he has had any bad results from the effect of cocaine in the percentage he has used?

Dr. Craig: No, sir.

Dr. Barge: Nor from the hypodermic use of cocaine?

Dr. Craig: No.

Dr. Barge: Do you resort to this operation in children who are grown up?

Dr. Craig: I never do a submucous resection on a child.

Dr. W. Lapat, Savannah: There is one point in connection with the submucous operation to which I desire to call attention and that is the danger of perforation. There are more perforations from the submucous operation than one thinks. If one would investigate the results of the work done in different clinics of patients who have undergone a submucous resection he will find quite a number of cases in which perforation has been produced.

With reference to the cause of perforation, you will find that the mucous membrane is very adherent and will tear easily. To prevent this it is well to make the original incision in the mucous membrane wide enough; if you go out to the outer wall far enough, you can lay back the whole flap and see much better than under ordinary circumstances. Another point: In cutting through the cartilage in front, if you do not go through at the place of the original incision, if you go through the cartilage farther back of the original incision, the two incisions are not opposite each other, and these are two important points in the submucous operation.

Dr. R. P. Cox, Rome: Dr. Craig has done excellent work in this line, and I do not believe the profession appreciates the importance of these submucous resection operations. Poor as I am, I would give a thousand dollars or more if I had had that operation done before I was twenty years of age. Professor White, one of the most celebrated rhinologists in the world, operated on my nose. He did what was considered at that time the best operation. He took an electric drill and drilled out a piece of cartilage and bone, but did not cause any perforation, and I got very little relief after a year or two. Since then the methods have improved somewhat and much more satisfactory work is being done.

As to the use of cocaine, I have a profound respect for the toxic action of cocaine. In one case in my own practice I had a bad scare from the toxic effects of cocaine. We should be very careful and not use too strong a solution.

Dr. Maxwell: I have had the experience in which a patient would come in with a decided deflection of the nasal septum and say that a spur of bone had been sawed off, which led me to think he might have a chronic condition of the sinuses and a decided deflection of the septum. These spurs have been sawed off so deeply that the bone has been sawed clear through, and in one or two such instances I have found perforations.

I would like to ask Dr. Craig what his experience has been in removing the septum after the spur had been sawed off?

Dr. Craig (closing): The doctor has asked a rather hard question. I think most of the perforations that occur in these cases occur after the use of the saw. I regard the nasal saw as an obsolete instrument. I personally threw mine away some years ago. We are sometimes confronted by a different proposition and we try to avoid destroying a part of the septum. The best method I have found personally in getting around that is to take Meyer's disc knives, and after the anterior incision is made I start far forward, and then I dissect the septum whether it is membranous or not. Frequently the anterior third is removed. I split it as you would split a piece of cardboard with a thick disc knife, and it takes me half an hour to do that. I do it, trying my utmost not to tear through on either side. A scar always forms over the spur and you can take it up with a sharp knife if you exercise great care and patience. I do not say that I always succeeded, but I try to succeed in doing that.

One of the speakers referred to tearing of the membrane far forward in making the incision far down to the floor. The main reason these tears are made in taking out the anterior part is because there is a fold of periosteum which comes up about an inch back of the maxillary crest continuous with the floor of the nose; it comes over the crest and dips down on the other side. The perichondrium comes down and up like an envelope when you get down to the ridge. Dr. Freer, of Chicago, has called attention to that. I then cut off the ridge according to Dr. Freer's method and get down through the periosteum and shell it off on both sides, and I have the whole anterior maxillary ridge exposed and take it out with forceps or chisel.

In regard to the use of cocain, which was referred to by Dr. Cox, I used a ten per cent solution approximately, but since I have been inclined to use morphine and hyosein in advance, I have never had any shock from cocain poisoning. I regard morphine as an antidote to cocain poisoning up to a certain point. I said ten per cent solution. I am firmly convinced that you can get thorough anesthesia of the nose with a one per cent solution of cocain.

A MODIFICATION OF THE SLUDER METHOD OF TONSIL ENUCLATION.

By Dr. W. Lapat, Savannah, Georgia.

Although we have an accumulation of literature describing the various methods of tonsil enuclation, we must admit that if each article is carefully read, we will all find some new point of interest with which we have not before been familiar. It is because of this that I feel justified in adding to the literature the method I have used on twenty-five cases operated on by me at Mt. Sinai Hospital (Dr. Emil Mayer's clinic), of New York City, and of the New York Polyclinic Hospital (Dr. Joseph Abraham's clinic), during 1914.

In June 1911 Dr. Greenfield Sluder brought out his excellent monograph, which you have all no doubt read, on the removal of the tonsil with the guillotine; since that time a great many men have used this method, but no one has been able to report success in all cases. In my own work I have been able to enucleate in about 70 per cent of the cases, and I came to the conclusion that unless I carefully picked my cases it was impossible to know, until after the operation, whether my result would be a Tonsilectomy or Tonsilotomy; another objection I found was that pressing the entire tonsil into the instrument, veins on the posterior tonsillary fossa wall would get caught in the guillotine and cut, resulting in a venous hemorrhage which was often difficult to control. These two objections prevented me from entirely throwing aside my snare.

I have no intention of burdening you with the various steps of the patient's preparations, they being the same as in any other operation where a general anesthetic is given.

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

The method I now employ is more of a finger dissection than anything else. The patient is in the prone position and a general anesthetic (Ether) is given, operator on the right side and the right tonsil is first removed. The guillotine is grasped in the right hand and put obliquely across the Buccopharyngeal cavity, the fenestra engaging the tonsil from below upwards, then with the left forefinger at the middle of the anterior pillar the tonsil is massaged into the hole so that three-quarters of it is within the forceps and one-quarter is still between the pillars. This is not very difficult, as one can easily feel with the forefinger the amount of tonsil within the instrument; the cutting edge is now firmly pressed down, but not with enough force to cut it through, and then putting the tonsil on the stretch by pulling the instrument forward with the right hand, the left forefinger starting at the superior angle of the fossa, sweeps down between tonsil and pillar, tearing through the plica and around the posterior pillar; thus enucleating the tonsil in practically one movement. The left tonsil is removed in somewhat the same manner, the operator still working on the right side, the only difference being that the instrument is now held in the left hand and the tonsil is enucleated with the right forefinger. The whole procedure takes from one-half to two minutes.

The instrument used is the Sluder original guillotine. I found that many of the modifications of this instrument, especially those with a spring handle, were not suitable, as during the operation it was very difficult to keep the right amount of pressure on the handle, the result being that if too much pressure was used the tonsil was cut through, and if too little it would slip out.

I used this method of operating in all the cases on which I formerly used the original Sluder; that is, on children who do not give a history of many recurrent attacks of Follicular Tonsillitis and those who clinically do not show severe adhesions between the pillar and tonsil. The mere fact that a tonsil is buried is not a contra-indication, as half of my cases consisted of buried tonsils.

The advantages I found in this method are as follows:

1. It is much more easily performed than the original Sluder method.

2. By grasping only part of the tonsil you do not catch the veins of the posterior wall,

thus preventing a great deal of unnecessary hemorrhage.

3. The arteries which supply the tonsil are torn instead of cut through, this causes the contraction of the vessel to take place much more quickly and consequently a much lessened hemorrhage.

4. One never takes off a piece of the anterior pillar, something which by the other method may easily occur in buried tonsils, and if occurring causes excessive bleeding as both pillars are well supplied with vessels.

5. Also, all the advantages which one gets by using the Sluder method, such as Small Amount of Anesthetic, Speed of Operation with a resulting lessened shock and quicker recuperation.

I fully realize that this paper is an exceedingly short one and because of its shortness I felt rather diffident about reading it before this Society. However, when I considered that most of you are so very familiar with the original method of guillotine enucleation, it seemed to me that it would be superfluous to go into more details describing my method. I have therefore given you a paper which, although short, will, I hope, show you clearly the advantages of finger enucleation in the use of the guillotine.

In conclusion, I can say that I started out to be very optimistic with regard to the use of the guillotine, but as time went on I found that very often I was compelled to finish with the snare, so that I now only use the guillotine with the finger method in the above cases. In these cases my results are excellent, the throat looking clean with practically no reaction and the patients being out within thirty-six hours.

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WHY ARE REFRACTION OF THE EYES AND THE PRESCRIBING OF LENSES A MEDICAL PROBLEM*

By Dr. Ross P. Cox, Rome, Ga.

So far as refraction is concerned, glasses are used for two purposes—to enable one to see, and to enable one to see without “strain.”

To the first division belong all higher degrees of refraction error. The state of an eye whose lens has been removed for cataract is an illustration of this. These cases simply cannot see, unaided. There can be no question of strain unless there is some incentive or effort to see.

This leaves the vast majority of refraction troubles in the second division, where vision is not lacking, but ranges from more or less reduction to even above normal, but the clear image is secured or maintained by over-effort, that is, by strain of the muscles and nerves of sight. The refraction error is usually moderate in these cases. When rested they, for a varying time (see perfectly well. Prematurely, however, there occurs one or more of those indications of eye-strain, such as blurring, burning, congestion, overflow of tears, pain in eye or head, etc., etc. If the use of such unaided eyes is persisted in, it leads not only to disordered function, as mentioned, but frequently to serious organic changes, such as inflammatory deposits, elongation of the eye-ball with near-sight.

Eyestrain may be muscular or nervous. Muscular strain is usually accommodative; that is, of the ciliary muscle, whose duty, in every observing moment of life, is to keep, for varying distances, a sharp image on the retina—or in other words, to accommodate the lens power of the eye from the far-point to the near-point. Muscular strain is also frequently of one or more of the six pairs of external muscles, whose function is to move the eye-balls and maintain binocular vision.

Under nervous strain it is convenient to include that whose source is from retina, optic nerve or related brain centres.

The question is, why is the diagnosis, including correcting glasses, a medical problem.

The question is very pertinent, for I doubt

not many an honest practitioner here has had friends or patients who had glasses of an optometrist, optician, jeweler, druggist or Kress store, with results that frequently were fairly satisfactory. Some of you have had some such personal experience and would like to be shown what was wrong about it.

Let us at once confess that the refraction work of many who aspire to the name of “oculist” is no better than it should be: that from overwork, from carelessness, from lack of training and experience too large a per cent of our refracting and lens prescribing is frankly bad. Be it also known that refracting opticians, now taking the name of “optometrists,” are not without their claims to consideration. A great university, Columbia, has dignified the practice of optometry by giving a course therein. I am convinced that a fair per cent of these optometrists are men of personal integrity, earnestly seeking to do conscientious, efficient work. That they frequently succeed I believe is beyond question. That they often do not succeed, where success was possible, I do know.

The fatal difficulty is that in optometry-education, at its best, there is neither promise or potency of adequate training even in anatomy and physiology of sight, not to mention its vitally essential and, in the matter of glasses, well-nigh all-comprehending pathology. I believe that no unprejudiced mind can consider the facts even briefly without admitting that the problem of glasses is inseparably bound up with the problem of pathology.

First, let us consider the large group of eye-strains where there is no error or refraction and where relief, if at all, must come from means other than glasses. Besides being turned aside from possible relief, what chance have these patients to escape from the average optometrist without paying for a pair of lenses that do them no good and may do them considerable harm?

This group is by no means a small one. It includes those whose eyestrain is due simply to overuse of the eyes, use under bad conditions of light, position, atmosphere, etc.; those whose eye-muscles, in common with all the body muscles, have been weakened temporarily by disease, such as fevers, or other acute illness; those whose vision is impaired by partial opacity, usually of the cornea or lense. This is the frequent result of scars and tissue changes due to acute or chronic

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

lesions of either local or constitutional origin. Common causes are gonorrhoea, trachoma, syphilis and all sorts of ulcers, wounds and cataracts. Not a great while ago a young man came to me suffering from a mildly injected, painful, lachrymating eye. He stated that he had never had any trouble with his eyes until a few days before he consulted me. He had already been to an optometrist, who had diagnosed the need of glasses and had sold him a pair, but as he had gotten no relief he had decided to try elsewhere. This man was promptly relieved by the removal of a small, imbedded cinder from the cornea of the affected eye.

Yet another class who, without refraction error, suffer from the strain of weak sight, includes those with early or mild affections of the retina, nerve, or brain centers. This is oftener a local expression of constitutional disorder. Examples are diabetes, Bright's disease, syphilis; of poisons, alcoholic drinks, tobacco and wood alcohol are commonest. Recently a man came to me from a highly advertised "scientific" optometrist, who had diagnosed "floating cataracts" and advised patient not to waste time and money as nothing could be done for this sort. He was speedily cured on a tobacco amblyopia basis. Who cannot see the pity of it, that these cases should come into the hands of men with a single idea and a single remedy—and that the wrong one!

My next reason for medical qualifications for prescribing lenses is connected with the accommodative function of the eye. You will recall that the eye is also a lens, which, in order to keep its focus on the retina, must accommodate, that is, increase its strength as the sight ranges from the far to the near point. This is effected by the contraction of the ciliary muscle. This releases the flattening tension of the ligament that holds the lens in place. Thus the lens, through its own elasticity, becomes more convex, stronger and able to focus a clear image of objects as they approach closer and closer, up to the near point. On account of the gradual loss of elasticity of the lens, and to some extent, of the power of the ciliary muscle, the ability of the eye to accommodate fails with advancing age. At the age of ten a child has more than 14 units of accommodation; at 30 he has only about 8; at 45 the range has fallen to about 3, and he begins to have trouble with fine print at night. At 60 there is but one unit and at

70 his far and near points have become one, there is no range of accommodation, no ability to change the focus of the unaided eye and from the one point to which it has settled. Now most glasses are required for persons at a comparatively early age. Certain it is that the vast majority of lenses are used by people before presbyopia has become a factor to vision of the normal eye—that is, at a time when the range of focal change is high.

The normal eye does not have to use any of this accommodative power when looking at objects beyond 20 feet, but the farsighted eye, which is most frequent, does have to accommodate even for the remotest distances. This causes the ciliary muscle to become strong, active and more or less overdeveloped. Furthermore, far-sight is oftener complicated by astigmatism. Now, astigmatism, you will recall, is that condition of the eye where the focal power of one meridian differs from that of another, say at right angles to it. No matter which meridian the ciliary muscle focuses on the retina, the other is obliged to be out of focus. The situation is further complicated by the interesting and important association of accommodation and the convergence of the two eyes. He might be able to accommodate through considerable farsight without distress, if nature would not tend him a lot of convergence that he does not desire, or he might more easily relax his accommodation for nearsight, if nature did not refuse the convergence that he requires. This is why farsight eyes are inclined to squint inward, and nearsight ones, outward.

Take these days of stress and strain of eyes, take a young adult or a child having yet wide range of accommodation and who has some disturbing error or refraction. For a greater or less time, it may be, that the strong ciliary muscle and the elastic lens have carried the burden of even considerable farsight without damage or discomfort, that it has shifted the burden of astigmatism from one hand to the other with fair success, but sooner or later a day comes when compensation is ruptured. It may arise from the failing power of advancing age, it may be over-use or use under unfavorable conditions; it may be contagious sore eyes, measles, or any one of scores of diseases, acute or chronic, local or general. The ciliary muscle may yet for a while be able to get the focus as before, but it accom-

plishes it by strain. There is lachrymation, redness, pain, headache, premature weakness and blurring, on attempt to do normal tasks. The ciliary muscles are teased and nagged and prodded until they are irritated, uncertain or even frantic. They over-act, or under-act or even go into a spasm of unnatural, constant contraction, making farsight appear either much less than it really is, or as indeed often happens, causing real farsight to appear as though it were genuine nearsight. The true angle and amount of astigmatism is distorted and falsified. At the same time convergence is loudly protesting and making trouble because it is not getting a square deal from its partner, accommodation.

About this time, and under these conditions, the child seeks relief. There is an error of some kind, ordinarily of one or a few units, buried somewhere under an accommodation range of, say, 12 or 15 units, of a ciliary muscle that is irritated and abnormal, if not more or less run amuck.

What chance has such an eye with the optometrist, with his fogging tests, or even his dynamic skiametry? He tests the eye in a state of irritation and strain, whereas it must be tested in a state of relaxation and rest, if we are to find the true error and so prescribe the lens that will truly correct it.

And how are we to get this rest, especially in young people, where there is great range of power of accommodation, already in a state of stir and rebellion. That you will safely get it by the proper use of homatropine, atropine or some such medicine, which temporarily puts at rest, and thus relaxes and soothes the troubled ciliary muscles is the experience of oculists everywhere. These are the great boons of the cycloplegics, they give accuracy in refraction and they give rest, rest from use, rest from effort. I wonder if the optometrists know that despised belladonna is the sheet anchor and the hope and life of the eye in many a dangerous disease or injury; that it has helped or saved a hundred thousand eyes to one that it has ever hurt. It is true that to patients at and beyond middle life cycloplegics can do damage if carelessly put into eyes inclined to glaucoma. So will water if poured into a red-hot kettle, but this is no argument against the practice in general of pouring water into kettles.

Old people have so little accommodation left that the need for cycloplegics is comparatively rare; and when, as between the ages of 40 and 50, as it sometimes will, seems desirable to use them, care in selecting the ease and the use of the mild, quickly disappearing homatropine removes danger. The practically unbroken support of the proper use of cycloplegics by the great and honorable masters in ophthalmology is a fact that all men should know.

One's own experience ought to be of value at least to one's self. Many a time I have heard patients exclaim about "those terrible drops," but only one ever claimed to have suffered any real injury from them. A lady asserted that they gave her daughter typhoid fever, for which I get credit to this day.

We are born farsighted. Practically no one is born nearsighted. Aside from inherited predisposition, the principal causes of nearsight are overuse at close distances. There is congestion and strain, greatly increased often by a nagging astigmatism. The coats of the ball are softened and yielding to the overacting accommodation and convergence, the ball becomes elongated, causing nearsight. The uncorrected astigmatism is thought to play so important a role in this that it has been aptly said it is through the turnstile of astigmatism that farsight goes into nearsight. From what has been said one can understand why Donders calls the nearsight eye a sick eye. Certain it is that the astigmatism of youthful nearsight eyes should most carefully be sought out under a cycloplegic and fully corrected. Surely no one will deny that the other factors concerned in arresting myopia are medical.

Hardly a more dangerous disease can befall the eye than malignant progressive nearsight. Its management taxes the skill of the best oculists. There are often no warning symptoms, only that the patient must hold objects closer and closer until finally he cannot see at all. To turn such cases over to optometry is on no ground defensible.

Errors of refraction cause a great variety of morbid phenomena even in remote regions of the body. I mention only neuralgias, extending even down the spine, vertigo, nausea and many other neuroses and disturbances of function. On the other hand, systemic or remote disease often finds a noteworthy if not its chief expression in the eye. I mention above all syphilis; also Bright's disease, malaria, rheumatism, diabetes, diphthe-

ria, and other toxins; also poisons, as lead, grain and wood alcohol, tobacco and the mydriatics and myotics.

Some of these weaken or paralyze the muscles of accommodation or motility, some cloud the media and some impair or destroy the retina, nerve or brain centers. Indeed, some general or local disease or disorder usually determines and precipitates the breakdown of eyes of persons under 40 years of age, who hitherto had carried their burden of ametropia successfully.

Is the optician, or, if you please, the optometrist, prepared to interpret these factors, to assign them their true value, to care for them in his treatment?

Is he equipped to deal wisely and well with an organ whose physiology and pathology are the most complex, whose muscles and nerves are the most delicately adjusted, whose reflexes are perhaps the most active and extensive of all the organs of the body? He pilots the boat a little way—and is at his wit's end. He does a little bit, a segment of a job and often does it badly because he reckons not of causes that go deeper and results that extend beyond his grasp. Then, in all kindness and in all sincerity, why the man with the single idea and the single prescription, which is arrived at by means that are uncertain, often faulty, and deeply influenced by the honest spirit of the tradesman, to make a sale on the spot?

Yet, there is a minority of refracting opticians whose personal integrity is so undoubted, whose knowledge of physical and physiological optics, so extensive, so well endowed by experience and common sense, so ready to detect the need of medical help and use it, that it would be unfair to class them with the average "scientific" optometrist, with his blatant, dishonest advertising, his placards of "We don't dope your eyes," "No dangerous drugs used," "We grind lenses," meaning—if pressed for facts—that they have a grindstone and can grind off the edges of lenses, etc., etc. These better men are not seeking to falsely acquire and exploit the title of "Doctor." They take no part in that campaign of deception and quackery which honest rogues have found so profitable. They are not offended or pained at Graefe, Donders, Fuchs, Landoldt, Knapp and scores of others, living or dead, who in their day and place, are or were just what the elder Calhoun was right here in Georgia.

Moreover, our profession permits a lot of

six-weeks' specialists, or something very like that, whose refracting is probably not so good as that of this minority of better opticians. Consider further the rather just claim of the optometrists, that there are not enough, nor half enough, ophthalmologists, good, bad and indifferent, to do the refracting that is needed.

These facts must be taken into consideration. Though nothing is ever settled until it is settled right, it would seem expedient, even necessary, to temporize while medical service is perfected and popular education advanced to where right settlement will be possible.

Three things stand out:

First, to assist or direct such legal organization of the better class of opticians, or, as they now call themselves, optometrists, as will enable them to purge themselves of much rottenness, and at the same time restrict their activities in certain cases where their more limited preparation is apt to lead them into error. We who have come the slow, hard ways, must help them curb that American weakness for short cuts to practicality, or perhaps it would be better to say, short cuts to shekels.

At the last meeting of the A. M. A., the committee on optometry brought into the section in ophthalmology substantially the following recommendations:

That in states not ready for a more advanced stand, optometry bills, under suitable penalties, shall prohibit anyone holding a license under the act from using the title of doctor or oculist, "or any word or abbreviation that will or can convey the impression that he is engaged in the treatment of diseases or injuries of the human eye; and from making use of medicine, drugs or surgery in the practice of optometry.

Further provisions are that, except with the consent or advice of a registered physician, that optometrists shall not sell or prescribe glasses to a person whose eyes are obviously diseased, or who has any form of squint, or any nearsighted glasses to anyone under 15 years of age, nor to a patient whose sight he cannot bring to 20-20 without also informing him that his sight is below normal and that this may be an evidence of a diseased condition. The limitations do not apply to those who make no pretense to practice optometry, but merely sell lenses as merchandise.

It does not seem that any fair-minded, disinterested person, at all acquainted with the facts, could deny that these recommendations of the committee are conservative, reasonable and just.

Our second duty is to make adequate and standardize the qualifications of those who could claim special fitness for the practice of ophthalmology. Short-cuts here are even more blameworthy than among opticians who refract. At the last meeting of the A. M. A. the Section on Ophthalmology received a report of its committee on Education in Ophthalmology, whose recommendations include—

That the time devoted to undergraduate study of the eye be increased; that certain elective courses in ophthalmology be provided in the fourth year of the regular medical course; that a post-graduate course of at least two years be required before any recognition of special fitness for ophthalmic practice be granted; "that to examine as to the fitness for practice of candidates who have undergone such preparation, a board of examiners directly controlled by the profession be established by conjoint action of the special organizations of American ophthalmologists."

The plan is to work this out somewhat as it is done in England, without any law, and probably without an especial degree, with only a certificate of fitness for the guidance of the profession and the public in the choice of an oculist. It is perfectly evident that such a certificate would quickly become so valuable that few candidates in ophthalmology would dare to ignore it.

Our third duty, as I see it, is that physicians everywhere should more sincerely and effectively use their personal knowledge and influence, and especially the prestige and authority of their organizations, for public service—to stimulate the interest and education of the people, among other things, in the advantage of the square deal of rational medicine as opposed to the aims and methods of quackery. We should all find time and means to support the work of the A. M. A.'s Council on Health and Public Instruction, and especially of its Committee on Conservation of Vision, of which Dr. Frank Allport of Chicago is chairman and Dr. Dunbar Roy of Atlanta is manager for Georgia. I have done some of this work, including pleas for medical inspection of schools where needed.

The duty confronts us on many lines, no-

tably in this matter of fitting glasses, because—

1. The fitting of glasses by persons that have no general and special medical training is wrong in principle.

2. The more medical knowledge you put into the fitting of lenses, the more of a science it is, and the less medical knowledge, the more of a guess and a gamble it becomes. As Davis says, the refractionist, or optometrist, should be not less than a doctor, but more than a doctor."

DISCUSSION ON THE PAPER OF DR. COX.

Dr. Newton Craig, Atlanta: I am sorry Dr. Cox did not read all of his paper, and I trust we will all get the benefit of it later when it is published. It is unfortunate that the paper of Dr. Mason was not read before a larger audience because it is a serious question we have to meet in this state and in fact in all states because of the great inroads that these men are making in this line of work. Very few realize the great damage they are doing.

A short time ago one of these traveling optometrists fitted a woman with glasses and she seemed apparently satisfied with them. When I examined her glasses I found that he had fitted her with plain glasses. That is not an uncommon experience. But the great harm comes where they will make a correction that may be needed approximately and help the patient temporarily. If the eyes should happen to be diseased, by the time they get over the little help that was afforded by the correction and go to consult a competent ophthalmologist, who examines the eyes thoroughly, sometimes the disease is beyond hope, for the reason that the patient may have Bright's disease or many other troubles.

It is a strange thing that members of the legislature will not take action in these cases, and instead of doing so we know frequently they encourage this work on the ground of personal liberty.

Dr. L. C. Allen, Hoschton: If the medical profession do not want an optometry law in Georgia they will have to be on the lookout and very vigilant. As the old darkey says, "If I live and nothing happens," I expect to be in the legislature during the next two years, and I do not think it pos-

sible for them to pass the optometry bill as long as I am there. But after that you had better look out. They came a great deal nearer two years ago than I thought it possible for them to do. A bill of that sort was introduced into the legislature by a member of the Bibb County delegation and was referred to the committee of which I was chairman. We got an unfavorable report, but there were two members of the committee who filed a minority report, and that bill came up rather unexpectedly. The friends of the measure, by some means or other, got the bill advanced on the calendar and it came up rather early in the session one morning rather unexpectedly, and there were four or five leading members of the legislature who got up and made speeches in the interests of that bill.

Now, it is to the interests of the optometrists that they get an organization in this state and get an optometry bill passed such as that introduced two years ago, which would give them practically a monopoly of the spectacle business in Georgia. In my opinion that is what they are after. That would mean a very big financial point to them. I do not say that they do do it, but I do say they could well afford to spend much money in employing the best lobbyists and lawyers to look after their interests. So when this bill came up in the legislature there were several speeches made in favor of it, and nobody said anything against it, and those who made the speeches for the bill of course only presented to the legislators the desirable features, and they were being misled as to what the bill really was. It looked as though the thing was going one way, not a question or word being said in opposition to it. When they got through I got up and attacked the bill savagely and very emphatically. I have not time to tell you what I said. They saw it was having effect upon the legislators and the friends of the bill fired questions from all over the house. In that particular instance I had this advantage, that they were lawyers and I was a doctor. They did not know much about the question they were talking about, and I did know something, so that the questions that were fired at me served to strengthen me in working for the defeat of this bill. The result of it was the bill was defeated by an overwhelming majority. But now, if I had not been there or somebody else, there is no doubt that bill would

have gone through as slick as greased lightning.

Dr. A. B. Mason, Waycross: Dr. Cox's paper is very timely. An effort will be made this summer, I am positive, to rush this bill through like a streak of greased lightning.

To me glasses are surgical appliances just as much so as a pessary. Glasses are nothing but a support to the muscles of the eye just as a pessary is a support to the muscles of the uterus, and if it is the practice to introduce a pessary to support the muscles of the uterus and that is considered the practice of medicine, it is just as much so the practice of medicine to put glasses on a patient. Some of you may not look at it in that light, but that is what it means. The majority of us wear glasses to support our eyes, to take the strain off of the ciliary muscle and to relieve headaches and various other disturbances caused from strain of the eyes.

Dr. Cox in his paper alluded to optometrists and the whole paper was directed practically against optometrists, and I wish to say to the association that I prepared my paper before I knew Dr. Cox was going to read a paper on this subject or I would have left unsaid many of the things I did say in it.

Dr. Franklin: This is an interesting subject to me and to all of us, I am sure. Optometrists have entered into a new field it seems. In fact we have down in our section of the country an optometrist who has been visiting the district schools for three or four days. He goes to a school and examines all the school children free of charge. I have often thought since he has been doing this what authority he had to go around to the different schools, the different district schools, and stay there for two or three days examining the eyes of all of the children in those schools or the eyes of anyone else who may want him to do so. Then he gives a report of his findings to the parents of these children. If he finds a bad eye he goes to the parents of that child and tells them of the condition which he has found, advises glasses and, of course, in that way he is doing a large business and making a good thing out of it.

One of our fellow physicians came to me and asked me about this fellow, and who was paying him to come here? I simply said it is paying him to come here, and that

he is making a whole lot of money out of it. He has been investigating the eyes of all the children in all of the larger schools. I know that in one of the country schools of the larger towns he stayed there three or four days examining the eyes of the children. It struck me at the time and more forcibly since then that some action ought to be taken in some way to prevent things of that kind. It is a great imposition, it seems to me, as Dr. Cox said in his paper, and this man undoubtedly tests the eyes of these children when they are under great strain and at the wrong time to examine them. He examines their eyes at that particular time and probably wrong glasses are given the children, which will do them more harm than good. As I have said, it is a great imposition, and I am in line with the profession against these optometrists.

Dr. J. Lawton Hiers, Savannah: Dr. Cox's paper is timely and I think it is high time that we get busy and put these people out of business. So far as giving them any further authority is concerned, as a matter of fact, I think they have too much at present. Most of us are familiar with the spectacle vendor that Dr. Franklin has referred to and the others who know nothing about refraction. They may go through in the capacity of peddlers, not knowing the first principles of refraction.

During the life of our distinguished and beloved friend Dr. A. W. Calhoun, I had on many occasions patients come in from the rural districts and say to me, "I got these glasses several years ago from one of Dr. Calhoun's representatives. I found out after a few investigations that these peddlers were said to gather up a lot of cheap glasses and represent themselves as representatives of Dr. Calhoun, building upon his reputation and selling these spectacles without any knowledge whatever of optics. They have come into my office with a minus glass when they should have had a plus glass, and vice versa.

We are all familiar with the old story of fighting the devil with fire. If we cannot block their game, we have been able to pass in the face of strong opposition an excellent medical practice bill regulating the practice of medicine in Georgia. We should get busy and fight them by making an amendment to our present practice bill prescribing the rights of the refractionist or optome-

trist or anything else you may please to call them. Of course, I am referring specifically to the men who fit the eyes of people with glasses.

I hope our committee on Public Policy and Legislation will be on the alert, and I am sure under the leadership of our distinguished friend, Dr. L. C. Allen, who defeated the other bill single handed, we will be able to defeat it at the next session of the legislature.

Dr. Cox (closing): In thirty states they have optometry laws of some kind, some good, some bad, some indifferent. Colorado and Maryland have passed laws and they have the best laws regulating optometry and these laws contain the famous Jackson clause. You will find that fully discussed in the Journal of the American Medical Association.

Dr. Franklin spoke about this man coming to the country and examining the eyes of the school children. There is what is known as the Allport system for examining the eyes of school children, and with the system the teachers themselves can make all the examinations. There are nine questions which any intelligent teacher can answer. It is even a substitute for the medical inspection of schools.

Not long ago a man came to my office who had been to an optometrist. The optometrist told him that he had floating cataracts, and I cured him by treating him as a case of tobacco amblyopia.

Another patient came in with red eyes, the optometrist being unable to help him. I found that there was a cinder embedded in the eye. I removed it and the man did not need glasses.

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EMPYEMA OF MAXILLARY ANTRUM**

By Dr. J. M. Smith, Valdosta, Ga.

In presenting this paper to this Association, it is not my purpose to bring out anything new with regard to this subject, but to emphasize some points which would lead perhaps to an early recognition of this disease. The symptoms of this trouble are so varied, and so important, and for which the general practitioner is so frequently consulted, that I feel that at least a portion of this paper will not be received indifferently by them. The maxillary sinus is a pyramidal shaped cavity lying wholly within the maxillary bone. It has for its base the nasal wall, the apex extending towards the malar bone. Skillern gives these dimensions: Height, about 1 1-2 inches, Breadth, 1 inch, and Depth, 1 1-4 inches. The normal capacity may be put at about 10 cc. in females and 16 cc. in males. The only opening into this sinus lies in the anterosuperior portion of the sinus and considerably above the floor of the antrum and drains into the nasal cavity. The location of the antrum necessarily makes it more or less the receptacle of the drainage from the other sinuses, frontal ethmoid, and sphenoid, and perhaps accounts in a measure for the fact that it is more often diseased than the other sinuses. The most frequent cause of sinusitis of the antrum is perhaps due to an extension of an acute inflammation of the nasal mucosa. The severity of the attack depending on the type of infection. For instance, in an acute coryza there will be more or less inflammatory reaction of the sinus mucosa with little or no inconvenience to the patient. On the contrary, in an attack of influenza the infection is of such a character that the severest forms of sinusitis follow. The sinus membrane undergoes the same process of congestion and subsequent resolution as in the nasal mucous membrane. If the normal opening of the antrum which, as I have said, is situated above its floor, can effect sufficient drainage, no trouble will likely follow. On the contrary, if there is obstruction from any cause, pathological changes in the sinus may take place and in the end become chronic. It was at one time thought that almost all cases of empyema of antrum were due to dental

caries but, according to Skillern, this opinion has greatly changed. Less than 30 per cent of my cases were of dental origin. In this connection, it is difficult to tell whether or not it is of dental origin, as it would be easy for the teeth to become secondarily infected from a pre-existing empyema. As remote causes, I may mention syphilis, tubercular lesions, foreign bodies, but it is not within the scope of this paper to discuss the less common causes.

Symptoms.

In the acute form the patient always complains of fullness on the affected side, and if the secretion is pent up in the sinus, there is more or less pain. One striking point in regard to the pain is that it is nearly always over the orbit when present at all. This may lead us into the error of believing that we are dealing with a frontal sinusitis. Severe pain directly over the sinus is rarely ever present. There is usually a history of a coryza existing, or of having recently recovered from an attack of some infectious disease. At this point, I desire to make especial mention of the intense neuralgias and headaches accompanying influenza, and which can scarcely be relieved by medication, and then only temporarily. I believe that a great number of these cases are due to empyema of the antrum, and suitable treatment would relieve them. I do not consider it necessary with these symptoms presenting to wait for further evidence as to the diagnosis. During the past winter I failed in only one of these cases, to find pus in the antrum, and in that instance it was due to malaria.

As to the treatment of these acute cases, I think we are losing time to try to effect drainage by reducing the swollen nasal mucosa, although it does afford some relief. Puncture, and irrigation of the antrum afford immediate relief, and while it usually has to be repeated two or three times in as many days, you always cure your patient, and at the same time forestall the possibility of a chronic condition ensuing.

The symptoms of chronic empyema of the maxillary antrum are so varied that it is impossible to classify them. In many of the cases I have seen the patient was unaware of any sinus trouble, and was seeking relief from some symptom remote from the antrum. I have under my care just now two cases that came to me for treatment for Hay Fever. The usual paroxysms of sneezing, increased

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

congestion of the nasal mucosa, lachrymation, etc., was present and every indication pointed to that of Hay Fever; but in one of the cases, I noticed that only one side seemed to be affected. Suspecting some sinus complication, I punctured the antrum and found a mixture of mucous and pus. The presence of pus in the nares without regard to the location should arouse suspicion of an antral empyema. I know this is putting it rather strong in view of the opinions of some of our authors, that the frontal and ethmoid sinuses are as often affected as the maxillary. As for pain it may be or may not be present. In my experience, it was more often about. With the aid of transillumination you are enabled to clear up the diagnosis in a majority of the doubtful cases.

I begin the treatment by puncture with the antral trocar, and free irrigation with a warm normal salt solution as in the acute form. I keep this up for two or three weeks and if at the end of this time there is no indication of an improvement, I inject a 40 grain to the ounce of nitrate of silver into the antrum and let it remain for a few minutes and again wash it out with the normal salt. The patient may complain slightly of the silver, but this is of no consequence. I repeat this perhaps two or three times in the course of two weeks, with daily washing with the normal salt. At the end of this time if there is no improvement a radical operation will most likely have to be done. The character of the secretion at the time of this first irrigation will usually give some idea as to the prognosis.

If the secretion is cheesy and crumbly, in character, and mixes with your solution, the chances for an early recovery are not good. On the contrary, if it is yellow and will not mix, prognosis is good.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in your pocket.

An advertisement in The Journal of the Medical Association of Georgia will bring results. Rates sent on request.

TONSILS*

By Dr. S. T. Carswell, Brunswick, Ga.

There is in every young human being three pairs of tonsils—Pharyngeal, Fauacial and Lingual. They are a very small part of our anatomy, but are of great importance when diseased. Of the tonsils the Fauacial is of first importance, then Pharyngeal, and last the Lingual, which only occasionally gives us trouble.

The faucial tonsil is of the greatest importance because of it being subjected or exposed in such a way that it is the most often diseased.

The tonsil that gives us trouble after the age of fifteen years is one in which there has likely been some trouble from early childhood.

The most common condition of tonsils in children is the enlarged or hypertrophied tonsil, and in eight out of ten such children that have hypertrophied faucial tonsils you will find that they also have the same condition of the pharyngeal tonsils.

Now, every enlarged tonsil shows that there is a certain amount of absorption going on and that the materials absorbed are not wholesome to the lymph channels, therefore the poisons or infected materials absorbed are thrown back into the tonsils where they are continually throwing off some of the infections through the tonsil crypts.

A healthy tonsil is, to a certain extent, a protection to the body against infections, while a diseased tonsil is not only annoying on account of its diseased condition, but is a medium through which the infections from various diseases are likely to enter into the human system. The diseased tonsil at present is admitted by the most noted men in the profession to be the source through which the human being becomes infected with T. B. in 10 per cent of all cases. As yet, it is not positively known just how the infection takes place, but it is generally admitted that the infection, after getting in the tonsil, travels through the lymphatics to the deep cervical glands of the thorax, then through the hilum into the pulmonary lymphatics. This seems more reasonable when we think that of all the tuberculosis we have you find the initial infection in the apex of the lungs in 90 per cent of the cases, which

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

offers a very wholesome abode for the T. B. because it is seldom inflated with air.

Among some of the other diseases which like to look to the tonsil for a favorable point through which to make an attack is Diphtheria, Measles, Scarlet Fever. In these diseases you always look to the mucous membrane of nose and throat for a positive diagnosis. There is always a marked change of the mucous membrane in the nose and throat in these infections.

From a diseased tonsil we have some constitutional diseases, the most common of which is rheumatism, which often attacks the cardiac muscles. After a tonsil has been infected it seldom gets well with any other treatment than removal. The effects of a diseased tonsil are numerous. The most common is pharyngitis, of which there is the acute, chronic, catarrhal, atropic, granular and sicca—all of which eventually affect the voice, and is even likely to extend into the larynx and trachea.

A diseased tonsil has a decided effect upon the system by lowering the resisting powers against other diseases which affect the body.

Of the several forms of tonsilitis we have, the ulcerated lacunar and abscessed tonsils which are of most importance.

All diseases of the tonsils are due to some unnecessary exposure or absorption of some bacteria which abounds on the mucous membrane of mouth and throat.

Now, since we know that the tonsil has become a well established atrium of infection and the physical economy of the patient is constantly menaced by conditions ranging all the way from follicular tonsilitis to endocarditis and pulmonary tuberculosis, he, or she, is entitled to immunity from tonsillar infections if it can be established without seriously jeopardizing either the health or life.

Measures should therefore be adopted which will insure future freedom from infection through the tonsil.

It has been shown by clinical work that the cauterization of the crypts and the surrounding follicular tissues does not accomplish desired results. The same is true of partial removal, or decapitation. Decapitation leaves that portion of the tonsil tissue which is most diseased, therefore only affords temporary relief and almost invariably you will have reformation of tonsil tissue and renewed infection.

The function of the tonsil has not been fully determined, though there is little or no evidence to show that there are any deleterious results caused by removal, while there is an abundance of evidence to show the good results from complete removal.

One writer believes the tonsil has an internal secretion comparable with that of the suprarenal gland. He arrived at this conclusion after giving an internal injection of an aqueous extract from the tonsil, getting same results as those obtained after injecting suprarenal extract.

The only treatment by which you can assure yourself and patient of immunity from infections through the tonsils is by complete removal of the tonsil in its capsule.

My experience in removing tonsils, which extends over a period of three years, compares favorably with that of Ballanger and others, who have had years of experience. I have not had an unfavorable result in all of the cases in which I have removed the tonsils completely—not even a hemorrhage.

Now, a few words on adenoids. We all know that the adenoid is a lymphoid gland that normally exists in every epipharynx and that only gives trouble when they become abnormally enlarged. They are only called adenoids when the glands become pathological and the principal cause of this pathological hypertrophy is due to the irritation and inflammation which takes place in the epipharynx during attacks of any of the eruptive fevers. As children are more susceptible to these fevers, it is but natural to expect to find the adenoids most during this period of life.

Adenoids are mostly found between the ages of five and fourteen years, although they are often found in infancy as well as in adult life. In deaf mutes, it is estimated that adenoids are present in 62 per cent of all cases, while in children who are otherwise normal in every way adenoids are found in about 5 per cent.

While the adenoid tissue is chiefly distributed on the upper and posterior wall of the epipharynx it sometimes extends as far down as the orifice of the Eustachian tubes, which accounts for the deafness and inattentiveness of those who have that condition.

Children who have hypertrophy of the lymphoid tissue of epipharynx present to us this condition: persistent mouth breathing, a faulty development of chest, often a fetid breath due to decomposition of the se-

cretions, articulation is muffled and resonance of voice is diminished. While sleeping the child is restless; sometimes horrible dreams with waking terrors. In day time the child is peevish, fretful and often the mental faculties are greatly impaired. When this condition is not corrected, we often find, even in children, a catarrhal condition of mucous membrane of nose and pharynx and Eustachian tubes, possibly extending down to trachea. The development of the mind is retarded in all—some very little, others a great deal. Facial expression (or adenoid) is often a permanent mark through life when the adenoids are not removed early in childhood. Only the removal of adenoids often prevents serious aural complications, improves the general health and beautifies facial expression.

There is only one treatment worthy of suggestion and that is the surgical removal of all growth that you can find in the epipharynx.

THE DOCTOR AS A FACTOR IN SOCIAL WELFARE FROM THE VIEWPOINT OF THE LAITY*

Rev. Gerald A. Cornell, Douglas, Ga.

Gentlemen:

This signal honor which you have paid me in asking for this address is sincerely appreciated and fills me with a deep sense of responsibility. As time is valuable we will eliminate all "preliminary bouts," in the form of graceful compliments, and give our attention to the "main fight:" "The Doctor As a Factor in Social Welfare from the Viewpoint of the Laity."

That you have asked for a discussion of this subject demonstrates that the Eleventh District Medical Society is alive to the awakening social vision and rapidly spreading social undertakings.

It is not my desire to depict conditions at their worst, for that sort of thing is paralyzing to effort and hope for improving social conditions. In our district there are four evils: Ignorance, Poverty, Vice and Disease. These four things not only invite, **they compel** the attention and healing touch of the physician. No right-minded doctor can feel that he has no concern for ignorance, poverty, and vice, and is only interested in dis-

ease. The curing of disease may be of particular interest, but may it be to the never-ending praise of the Doctor that, true to his ideal, he is nobly fulfilling his mission in preaching and fighting for the Dogma of Prevention. Preach more and fight harder, gentlemen, for it is in the power of the doctor to become, if he is not already, the most effective factor in the constructive advancement of the human race. We of the laity have confidence in the men of medicine and surgery, partly because we are afraid of you, but chiefly because our need of you enforces confidence and because of the astounding triumphs you have won. We suffer no pain when you operate: A Georgia man discovered ether. We need not have typhoid: Typhobacterin has been discovered. If injured, we need not die from loss of blood: the success of Transfusion has been established. These and other triumphs too numerous to mention, constitute immortal monuments to the Doctor.

There is such an abundance of literature dealing with the question of sex-hygiene, child labor, sanitary laws, and enforced education, that there is danger of overdoing it. In other words, gentlemen, it is time for the adoption of practical measures. The four wrongs existing in our district are preventable. Our system of economy is improving and soon there will be no excuse for poverty in this rich and fertile section of our state. Our Congressman, Mr. Walker, told me that it was his earnest and prayerful desire to be of real service to the people of this district. May he, with us, pity the man who knows less than we do and fight for the education of our children and for the wiping out of child labor, that terrible blot on the fair name of our state.

A few months ago it was my privilege to visit the State Hospital at Milledgeville. Without question the most pitiable feature of that sad place is the large number of insane children confined there, and more of the poor little creatures are scattered throughout the country. Terrible as insanity is, it is unfortunately only one of many diseases that are being almost constantly transmitted from parent to child. You, gentlemen, are more familiar with the many curses of inheritance than the laity. Oh, doctors, out there the "wind is wandering over the ocean kissing the crest of each wave, gathering a little moisture from each one, and bringing to us who stand on the shore,

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the ethereal health-giving essence." Nature is kind and is constantly contributing to a healthy person's joy of living. We are here to partake of a sort of medical banquet and to get a little respite from the telephone bell and messenger boy. By all means let us enjoy and make the most of our few hours in this cool place, but it will not harm us to listen for a minute to the cries of the little children who are born to life-long suffering. There are types of preachers who may say it is the Will of God. You know better: it is the criminal carelessness of man. We talk of the divorce evil: it is not to be compared with the marriage evil. Our literature is teeming with it, men are writing about it and discussing it throughout our land. I sincerely hope everyone has read that splendid and unanswerable article by Stoddard Goodhue, in the *Cosmopolitan* for July. Clergymen are preaching and legislators are planning, or should be planning, for the welfare of humanity. Is it not the duty of the doctor to help convince the people of our country that every possible safeguard should be employed to make matrimony a wholesome and holy estate. Should a clergyman go before our legislators, with a proper introduction, of course, he would receive their courteous attention and probably be commended for his lofty ideals. But when the doctor speaks it is with unquestioned authority, for the doctor knows. The clergyman may know, but our legislators find it difficult to understand how he can know really. It has been the disappointment of my life that I have not had the time nor the means to go to Johns Hopkins or some other good school of medicine, so that the church to which I owe allegiance could send me to fields where clergymen and doctors are scarce. This is beside the mark, however. I only wish it to illustrate the esteem the Church of God has for the doctor. The church holds the clergyman's calling to be the highest on earth, and she holds the doctor's equally high, for where she sends a clergyman she also sends a doctor.

In all sincerity, doctors, is it not your duty to blaze the trail and lead a suffering people through the death-dealing desert of despair, over the great divide, disease, into the fertile valleys and happy realm of healthy children? How? There are many answers. At present it is impossible for the doctor to consult all the candidates for matrimony. When people wish to marry they are asked

two questions: "Are you of age and unmarried?" If these questions are answered satisfactorily a clergyman or justice can be found to perform the ceremony.

Gentlemen, the purpose of law is that justice be done. The law is often guilty of criminal neglect when it does not require a certificate of health from a **truly reputable** physician before the marriage license is issued. It is not a question of controlling the love affairs of the people. Nor is it a question of preventing people from marrying. It means, principally, the requiring of a delay until diseased persons are fit to marry. Matrimony is for the protection of the race, not for its destruction. Let us play fair, the future generations have the right to health and happiness, it is our duty to protect them. If you feel that you can advocate the passage of a law requiring a certificate of health from a reputable physician be presented to the county clerk upon application for a license to marry, will you not give some earnest of your beliefs, when the opportunity is presented you.

A FEW SUGGESTIONS FROM A REGISTERED NURSE*

By Ruth R. Kuhn, R. N., Supt. of Nurses, A.
C. L. Hospital, Waycross, Ga.

As a Graduate, Registered Nurse, I beg leave to call the attention of the members of this society to a subject which I hope they will deem worthy of their consideration. It touches upon graduation, registration and discrimination on the profession of nursing.

Women posing as Graduate Nurses seem to be able to present themselves to communities in the South and, as such, have little difficulty in obtaining work. These women, after six or twelve months' service in a hospital, either failed to make good, were dismissed, or left of their own accord to seek employment as Graduate Nurses. These women lower sadly the standard of nursing in the South and are a menace to the public. More often than not, they are unsatisfactory to the physician and patient, which fact would seem only natural, for a nurse who is deficient in training is not capable of nursing seriously ill patients; what she lacks in professional ability she makes up in her

*Read at meeting of Medical Association of Georgia, Macon, Ga., 1915.

excessive nerve to demand the Graduate Nurse's fee. I do not wish to infer that these women should not be allowed to work as nurses but I do insist that they should not be permitted to **nurse as Graduate Nurses**. The undergraduate or practical nurse as she is often termed can be utilized in such cases where much professional skill is not required or where a little knowledge is better than none at all.

Personally I have had some experience with several of these women and it offends my pride and sense of professional dignity to see such women, most of whom are uneducated and illiterate, presume to usurp the Graduate Nurse's position and aspire to those grave and serious responsibilities which belong strictly to the more intelligent type in the person of the Graduate Nurse.

This sailing under false colors is a grave evil and can be remedied only by an organized movement among physicians to insist upon Graduate Nurses only, when a fee is paid for a Graduate Nurse's services. Also the physicians' co-operation in the enforcement of the laws of State Registration for nurses, which, as you know, is, where it exists, an act to regulate the practice of professional nursing.

With the progress of Medicine and Surgery a corresponding advance has ensued in the methods of nursing the sick and in these days of modern civilization the art of nursing takes its place among the Scientific Professions and as nursing is recognized as a formal auxiliary to the Medical Profession, refinement and education we must admit are essential factors in women who aspire to be trained nurses. We all know the intrinsic value of culture which manifests itself towards success and harmony in every vocation and avocation of life. Therefore, I respectfully suggest that the physicians use their influence in recommending a more intelligent class of young women for the Training Schools of the small Hospitals, allowing these women the privilege of affiliation with the Training schools of the large city Hospitals in order to complete their training, thereby rendering them eligible for State Registration.

State Registration has done much toward raising the standard of nursing all over the country and has served to eliminate to a great extent the undesirable element.

There is another type of nurse against whom discrimination should be made, name-

ly, the "cast off" Graduate Nurse. For some good reason she has been professionally ostracized in her own community, she seeks employment in another and frequently finds it. If she has been inefficient and unsatisfactory at home, we can reasonably assume that she will be the same elsewhere. For the good of all concerned, every woman who enters a community representing herself as a Graduate Nurse should be required to show her credentials and some means instituted to verify same.

A movement is in view in Waycross for the betterment of nursing conditions, and, as under the physicians' orders we are working towards the same great end, we must have first, last and always, your loyal co-operation, and I hope the day is not far distant when the standard of nursing all over the South will have reached such a high ethical standard that every member of this society will consider the Graduate Registered Nurse indispensable to the good results obtained by his medical and surgical skill.

(I thank you most sincerely for the courtesy of the floor.)

March, 1916.

Dr. W. C. Lyle, Augusta, Ga.

Dear Doctor: The second annual meeting and luncheon of the "Georgia Ophthalmic Club" will take place at Columbus during the meeting of the Medical Association of Georgia next month. The exact date can not be set until the programs of the State Association are out, but our meeting will occur on the day that the Eye, Ear, Nose and Throat papers are on the program (probably the second day of the meeting). The session of the Georgia Ophthalmic Club will be at luncheon and each man "pays for his own." Please let me know at once whether to expect you, as it is necessary to know the number as early as possible.

I think it would be a good plan to publish a notice of this meeting in the next issue of The Journal, and I thank you to do so if this meets with your approval.

With best wishes and hoping to see you in Columbus, I am, yours very truly,

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Michigan has passed a law specifically to regulate the sale of poisonous fly eradicators, and other states will undoubtedly follow. Because of its interest in public welfare, the medical profession supports this movement and favors the stringent restriction of the manufacture and sale of these noxious products.

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Advertising forms go to press eight day in advance of the date of issue. In sending in copy time must be allowed for setting up advertisements and for sending proofs. No proprietary medicines can be advertised until approved by the council. Advertising rates will be sent on request.

CONTRIBUTIONS

EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this journal.

CONTRIBUTIONS TYPEWRITTEN: Authors should have their contributions typewritten—double-space and with ample margin—before submitting them. The expense is small to the author—the satisfaction is great to the editor and printer. We cannot promise to return unused manuscript, but try to do so in every instance. Manuscript should not be rolled or folded.

ANONYMOUS CONTRIBUTIONS, whether for publication, for information, or in the way of criticism, are consigned to the wastebasket unread.

NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

MEDICAL ASSOCIATION OF GEORGIA

Sixty-Seventh Annual Session, Columbus, Ga.,
April 19, 20, 21, 1916.

INFORMATION.

The headquarters of the Association will be at the Ralston Hotel. The general sessions, as well as meetings of the House of Delegates, will be held in the hotel.

MEMBERSHIP CARDS.

In order to facilitate registration it is urged that every member be prepared to show his membership card at the registration desk, where badges will be provided.

PAPERS.

All papers on the program, whether read or not, will be published in The Journal of the Association.

ENTERTAINMENT.

The Muscogee County Medical Society will have an informal smoker for their guests after the Wednesday night session and the regular annual banquet will be held Thursday night.

MEETING OF COUNCIL.

There will be a meeting of the Councillors of the Association at the Ralston Hotel Tuesday evening preceding the annual meeting.

PROGRAM.

Wednesday Morning, April 19.

Meeting of House of Delegates at 9 o'clock.

GENERAL SESSION.

Meeting called to order at 10:30 by President W. S. Goldsmith, M.D., Atlanta.

Invocation..Rev. S. Alston Wragg, Columbus

Address of Welcome on behalf of city.....

.....Hon. John C. Cook, Mayor

Address of Welcome on behalf of Muscogee County Society.....

.....Neal Kitchens, M.D., Columbus

Response to Addresses of Welcome.....

.....J. M. Smith, M.D., Valdosta

Report of House of Delegates.

Papers.

1. By Example as Well as by Precept.....
.....Emery R. Park, M.D., Brunswick
2. A Plea for Regulating the Advertising and Sale of Patent Medicine.....
.....J. O. Elrod, M.D., Forsyth
3. How We Expect the Ellis Public Health Bill to Benefit Floyd County.....
.....M. M. McCord, M.D., Rome
4. The Management of Diphtheria Epidemics
.....E. E. Murphey, M.D., Augusta
5. Hydrotherapy
.....W. W. Blackman, M.D., Atlanta
6. Grave Danger of the Painless Blind Abscess.....Robin Adair, M.D., Atlanta

RECESS.

Wednesday Afternoon, 2:30.

7. The Value of the Cystoscope in the Diagnosis of Genito-Urinary Conditions.....E. P. Merritt, M.D., Atlanta
8. Practical Cystoscopy.....
.....A. L. Fowler, M.D., Atlanta
9. The Etiology of Syphilis and Chanere..
.....E. G. Ballenger, M.D., Atlanta

10. Cutaneous Syphilis.....
.....M. B. Hutchens, M.D., Atlanta
11. The So-called Tertiary Syphilis.....
.....W. L. Champion, M.D., Atlanta
12. The Pathology of Syphilis.....
.....E. C. Thrash, M.D., Atlanta
13. The Wasserman Versus the Noguchi
Reaction.....A. H. Bunce, M.D., Atlanta
14. The Value of the Serological Tests for
Syphilis.....J. E. Paullin, M.D., Atlanta
15. Salvarsan in the Treatment of Syphilis.
.....Cosby Swanson, M.D., Atlanta
16. The Treatment of Syphilis Other Than
With Salvarsan
.....C. A. Wilkins, M.D., Atlanta
30. Conservation of Tissue—Restoration of
Function. Not Removal of Organs,
Should Be the Aim of Surgery.....
.....F. W. McRae, M.D., Atlanta
31. Chronic Affections of the Knee.....
.....F. G. Hodgson, M.D., Atlanta

RECESS.

Thursday Afternoon, 2:30.

RECESS.

Wednesday Evening, 8:30.

17. Gastro-enterostomy for the Two Ex-
tremes in Life. Lantern Slides.....
.....E. C. Davis, M.D., Atlanta
18. Some Observations on Goiter Based on
a Study of Two Hundred Cases. Lan-
tern Demonstration.....
.....E. G. Jones, M.D., Atlanta
19. The Diagnosis of Duodenal Ulcer—
X-Ray and Otherwise. (Lantern Dem-
onstration).....
.....Geo. M. Niles, M.D., Atlanta
20. Cancer of the Breast, with Lantern
Slides.....L. C. Fischer, M.D., Atlanta
21. The Roentgenogram in the Diagnosis of
Renal Calculus. (Illustrated with
Lantern Slides)
.....C. D. Cleghorn, M.D., Macon
32. The Evolution of Medicine in Georgia....
.....T. R. Wright, M.D., Augusta
33. Acute Dilatation of the Stomach.....
.....J. T. Rogers, M.D., Savannah
34. The Modern Treatment of the Insane..
.....R. C. Swint, M.D., Milledgeville
35. Migraine.....J. G. Dean, M.D., Dawson
36. Nervous Manifestations in Bright's
Disease.....L. M. Gaines, M.D., Atlanta
37. Pituitrin.....J. W. Palmer, M.D., Ailey
38. Treatment of Bronchial Asthma With
Autogenous Vaccines. Report of Cases
.....C. W. Findley, M.D., Broxton
39. Angina Pectoris
.....S. R. Roberts, M. D., Atlanta
40. A New Treatment for Infectious
Diarrhoeas in Infancy.....
.....W. A. Mulherin, M.D., Augusta
41. Etiology and Differential Diagnosis of
Neurasthenia
.....Harry Rubin, M.D., Savannah

FRIDAY MORNING, 9:00.

Report of House of Delegates.

22. Some Pathologic Conditions of the Sa-
livary Glands and Their Treatment..
.....Dunbar Roy, M.D., Atlanta
23. The Recent Advancement in Bone
Surgery
.....W. B. Crawford, M.D., Savannah
24. Volkman's Contracture, Report of
Cases.....C. C. Harrold, M. D., Macon
25. Acute Torsion of the Ovary in Young
Girls, with Report of Cases.....
.....H. S. Munroe, M. D., Columbus
26. The Ideal Operation for Retro-Displace-
ments of Uterus.....
.....W. W. Battey, M.D., Augusta
27. The Acute Abdomen.....
.....W. F. Westmoreland, M.D., Atlanta
28. Meningocele
.....Walter Norton, M.D., Savannah
29. Gunshot Wound of the Spinal Cord....
.....W. L. Cooke, M.D., Columbus
42. Removal of Foreign Bodies from the
Globe by the Electro Magnet.....
.....F. P. Calhoun, M.D., Atlanta
43. Hygiene in the Prophylaxis and Treat-
ment of Eye Diseases.....
.....Cecil Stockard, M.D., Atlanta
44. The Diagnosis and Removal of Foreign
Bodies in the Trachea and Bronchi....
.....C. L. Pennington, M.D., Macon
45. The Treatment of Concomitant Squint .
.....A. B. Mason, M.D., Waycross
46. Intranasal Treatment of Dysmenorrhea
.....W. Lapat, M.D., Savannah
47. Vincent's Angina.....H. M. Lokey, M.D.,
Atlanta, and Charles Gould, M.D.,
Atlanta.
48. The Importance of an Ocular Examina-
tion in the Diagnosis of Other Disor-
ders.....E. E. Osborne, M.D., Savannah
49. Brief History of and Demonstration by
Congenital Deaf Mutes Hearing and
Conversing Over Long-Distance Tele-
phone.....M. M. Stapler, M.D., Macon

President's Annual Address.**RECESS.****Friday Afternoon, 3:00.**

Election of Officers.

(Councillors to be elected from Fifth, Sixth, Seventh and Eighth Districts.)

Organization of Council.

PROGRAM FOR MEETING OF HOUSE OF DELEGATES.**Wednesday Morning, 9 O'Clock.**

Ralston Hotel.

Call to order by the President.

Enrollment of Delegates, by the Secretary.

Report of Committees.

Unfinished Business.

New Business.

Thursday Evening, 6 O'Clock.

Call to order by President.

Report of Special Committees.

Report of Council.

Unfinished Business.

MOTION TO AMEND BY-LAWS.

Chapter VI., Sec. 1. By inserting the words, "A Committee on Medical Defense." along with the list of standing committees.

Making Sec. 4 to read Sec. 5 and inserting the following section as Sec. 4:

The Committee on Medical Defense shall consist of 5 members, of whom the chairman of the Board of Councillors, and the Secretary-Treasurer of the Association shall be **ex-officio** members. The other members, one of whom shall act as chairman of the Committee, shall be elected by the Council for a period of five years. Those elected at this meeting to serve 1, 2 and 3 years respectively.

It shall be the duty of the members of the Committee on Medical Defense, severally or collectively, to investigate and defend all damage suits against the Medical Association of Georgia, to investigate all claims of civil malpractice made against members; to take full charge of cases which after investigation, they will have decided to be proper cases for defense; to defend such cases to the end and pay all costs of such defense; but they shall not pay, or obligate the Medical Association of Georgia to pay any judg-

ment rendered against any member upon the final determination of any such case. They shall be empowered to contract with such agents or attorneys as they may deem necessary, but shall always consult the defendant in employing attorneys.

The assistance for defense, as herein provided, shall be available only to members of the Medical Association of Georgia in good standing. A member in arrears with annual dues after February 1st shall not be entitled to defense as herein provided for any suit, the cause of action of which arose while said member was in arrears.

Any member or members of the Medical Association of Georgia threatened with suit for civil malpractice, who desires the assistance of the Committee on Medical Defense, shall, immediately that he becomes aware of the threat to sue, so notify the Secretary of the Association, or the general attorney of the Association, in the instance there is not time to communicate with the Secretary. The Secretary or the general attorney, so notified, shall proceed immediately to investigate the circumstances reported, in the manner and after the procedure hereafter to be set out by the Committee on Medical Defense, securing for the consideration of the said Committee full data and statement of facts and circumstances surrounding the filing of the suit or suits for its consideration, and permanent files. The member sued or threatened with suit, and under investigation by the Committee on Medical Defense, shall be consulted and have the full confidence of the committee in all transactions connected with the investigation in question. The Committee on Medical Defense shall have the authority to require of a County Society or the President thereof, the appointment of a committee of investigation in any such case, and it may direct the said committee so appointed to report to the Committee on Medical Defense and not to the Society from which it is appointed.

It is understood the Association will not undertake to defend suits brought as offsets for bills for services rendered, or where it is understood the plaintiff will not sue for alleged civil malpractice if suit is not brought for collection of the services rendered at the time the cause for action arose.

The Committee on Medical Defense may also at its discretion arrange to prosecute illegal practitioners and enforce the Medical Practice Act of this State.

Cargentos

Cargentos (Colloidal Silver Oxide Mulford) contains 50 per cent of silver. It is produced by the action of sodium hydroxide upon silver nitrate in the presence of casein, a solution of colloidal silver oxide being obtained, which is dialyzed until completely free from inorganic salts and evaporated in vacuo at low temperature to dryness.

Cargentos appears as lustrous black scales freely soluble in water. Solutions of Cargentos are not precipitated by sodium chloride or albumen, and this, together with their high specific gravity, due to the large silver content, increases their penetrating power.

Cargentos has a greater bactericidal power than carbolic acid. No other silver salt of equal bactericidal properties can be applied in such concentrated solutions without causing irritation. For this reason Cargentos is particularly indicated in ophthalmic treatment.

Cargentos is especially valuable in Roentgenography on account of non-toxicity and the absence of irritating properties. Dr. A. A. Uhle, Dr. George A. Pfähler, and others, use Cargentos "extensively in urethral and bladder affection, and find it non-irritating in 50 per cent strength." (See *Annals of Surgery*, April, 1910, page 546.)

Cargentos is an excellent antiseptic in gonorrhea, and in all acute catarrhal conditions of the mucous membranes. It is distinctly inhibitory to bacterial development.

Supplied in 1-2 oz. and 1 oz. vials and in tablets for preparing solutions extemporaneously.

Cargentos Dusting Powder is an effective dry surgical dressing; its non-caking properties make it valuable in dressing amputations, leg ulcers, wounds, venereal abscesses, etc.



Emetine Hydrochloride Mulford

A True Specific in Amebic Dysentery, Amebic Hepatitis (amebic abscess of the liver) and Amebic Pyorrhea. Useful in Checking Hemoptysis.

Friedenwald and Rosenthal* state that:

- 1.—Emetine is a specific in the treatment of amebic dysentery.
- 2.—It is quickly absorbed and its effect is rapid and striking.
- 3.—It produces no unfavorable symptoms, such as nausea, vomiting and depression.
- 4.—It is a diagnostic agent of great value.

Emetine is a specific in amebic pyorrhea.†

Emetine Treatment of Hemoptysis.—One of the properties of Emetine is to constrict the small blood vessels. In the treatment of hemoptysis Flandin states that "the result of the injection was surprising, the hemorrhage from the lung stopping immediately. No disagreeable sensation was experienced, no palpitations, dizziness or nausea."

Emetine Hydrochloride Mulford is furnished in packages of **12 ampuls**, each ampul containing 30 mg. (1-2 gr.) dissolved in 1 c.c. sterile physiological saline solution.

In tubes of 15 mg. (1-4 grain) hypodermic tablets. In tubes of 30 mg. (1-2 grain) compressed tablets for oral administration.

* New York Medical Journal, July 4, 1914.

† New Orleans Medical and Surgical Journal, August, 1914; Dental Cosmos, December, 1914.

H. K. MULFORD COMPANY, Philadelphia, U. S. A.
Manufacturing and Biological Chemists

Intestinal Stasis

Ptosis and Constipation

have assumed today an importance which the medical profession never before imagined. This is because the toxemia which may accompany these conditions, with its train of detrimental results, has been demonstrated, while the fact that cases may be treated successfully by the physician, is recognized. It has been shown that Ptosis, Intestinal Stasis and Constipation do not necessarily occur together. Each may exist by itself, or any degree of combination of two or all may obtain. The essential matter is to prevent the toxemia by preventing an abnormal delay in the passage of material along the gastro-intestinal tract and by hindering development of bacteria.

The medicinal remedy, *par excellence*, is, by common consent, LIQUID PETROLATUM, *Heavy*, administered early in the case and persisted in until a cure is had, or until it is demonstrated that surgical conditions prevent results.

We therefore wish to call the attention of the medical profession to

Liquid Petrolatum, Squibb

(Heavy, Californian)

as especially suited to relieve constipation and to prevent alimentary toxemia. It is colorless, tasteless, neutral and non-irritating. It exceeds the quality requirements of the United States Pharmacopoeia and the British Pharmacopoeia, and is the purest and best mineral oil to be had. It is superior in essential respects to similar products, whether of Russian or American origin.

E. R. SQUIBB & SONS, New York

Germicidal **Soap**

(Formula of Dr. Chas. T. McClintock)

**Powerful antiseptic,
disinfectant, detergent
and deodorant.**

**Prepared from pure vegetable oils
combined with mercuric iodide, the
most powerful germicide known.**

**Does not attack nicked or steel
instruments; does not coagulate
albumin.**

GERMICIDAL SOAP, 2%:

Contains 2% of mercuric iodide: large
cakes, one in a carton.

GERMICIDAL SOAP, MILD, 1%:

Large cakes, one in a carton; small
cakes, five in a carton.

For other forms see our catalogue.

SUGGESTIONS FOR USE

To prepare antiseptic solutions.

To sterilize hands, instruments and
sites of operation.

To cleanse wounds (bruises, cuts,
abrasions), ulcers, etc.

To lubricate sounds and specula.

To destroy infecting organisms in
skin diseases (ringworm, acne, bar-
ber's itch, etc.).

To disinfect surface lesions asso-
ciated with fetid discharge.

To control the itching of skin in-
fections.

To disinfect the hands after attend-
ance upon cases of communicable
disease.

To make solutions for the vaginal
douche.

To destroy the odors of offensive
hyperidrosis.

To cleanse the hair and scalp.

To remove and prevent dandruff.

To disinfect vessels, utensils, etc.

To wash and sterilize bed-linen,
handkerchiefs, etc., used in the sick-
room.

♦ ♦ ♦

**Germicidal Soap, in short, is useful
whenever and wherever a powerful
antiseptic, disinfectant, detergent or
deodorant is required.**

SPECIFY "P. D. & CO." WHEN ORDERING FROM YOUR DRUGGIST.

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